

TECHNICAL MEMORANDUM

draft

Update of the Nantucket Bicycle and Pedestrian Master Plan

Prepared for:

**Nantucket Planning and Economic
Development Commission**

September 2005

GPI Greenman-Pedersen, Inc.

TECHNICAL MEMORANDUM

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TECHNICAL MEMORANDUM

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INTRODUCTION

This Technical Memorandum has been prepared to address two components of the Nantucket Bicycle and Pedestrian Master Plan. Phase I of the report address the Order of Magnitude costs associated with the design and construction of the various bicycle and pedestrian facility upgrades and/or improvements outlined in the *1994 Nantucket Bicycle and Pedestrian Master Plan*, as well as the *Comprehensive Community Plan*, *Regional Transportation Plan*, *Mid-Island Area Plan* and the *Mid-Island Traffic Study*. The proposed modifications are outlined in Appendix A.

Phase II of this memorandum addresses the Pavement Condition Rating (PCR) of each of the Town's existing six (6) bike paths. These paths include:

- Milestone Road
- Surfside Road
- Madaket Road
- Cliff Road
- Polpis Road
- Eel Point Road

The pavement evaluation was completed in accordance with the methodology outlined in the *Pavement Condition Rating System* established by the Ohio Department of Transportation. This methodology establishes a Pavement Condition Rating based on a uniform identification of the severity and extent of various pavement distresses. The PCR provides an index and ranking reflecting the composite effects of different distress types, severity and extent upon the overall condition of the pavement.

Appendix B contains the *Pavement Condition Rating Procedures* used for this study.

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

PHASE I – ORDER OF MAGNITUDE COST ESTIMATE

The costs associated with the various bicycle and pedestrian improvements and construction projects identified in previous studies was updated to provide the Town with an order of magnitude cost for the design and construction of each project.

The prices used to update the costs are based on Greenman-Pedersen, Inc.'s past project history on bike path construction bid prices as well as the bid prices on the two recent bike path projects on the island (Old South Road and Fairgrounds Road). The costs have been factored to provide a base construction cost per square foot of bike path, sidewalk, travel lane, etc. The engineering or design cost associated with each project is also provided. This is based on an engineering fee equal to approximately eleven percent (11%) of the construction cost.

The costs associated with routine maintenance and/or areas of repair of the existing bike path facilities will be identified and outlined under Phase II of the project.

The following tables outline the associated engineering and estimated construction costs for each project outlined in the *1994 Nantucket Bicycle and Pedestrian Master Plan*, as well as the *Comprehensive Community Plan*, *Regional Transportation Plan*, *Mid-Island Area Plan* and the *Mid-Island Traffic Study*.

Table 1

Order of Magnitude
Cost Estimate

Nantucket Bicycle and Pedestrian Master Plan

1.0 Surfside Road

1.1 Surfside Road

- 1.1.1 On west side of road, beginning near First Way, widen existing 6-foot wide asphalt path by 4-feet for a distance of 600 feet to the north.
- 1.1.2 Install crosswalk at this location to connect to east side of road between two driveways to the High School.
- 1.1.3 Install Bicycle Crossing Sign (W11-1) 250 feet south of crossing on east side of road.
- 1.1.4 Widen existing 3-foot wide concrete sidewalk by 5 feet for a distance of 250 feet to the north.
- 1.1.5 Construct a bicycle path connecting Surfside Road and Sparks Avenue at southeastern part of intersection for a distance of 200 feet.

Material	Length (ft)	Width (ft)	Unit Cost (sf)	Design Cost	Construction Cost
Asphalt	600	4	\$ 25.00	\$ 6,600.00	\$ 60,000.00
Thermo	30 # of signs	2 sf	\$ 7.00	\$ 46.20	\$ 420.00
Alum	1	16	\$ 18.00	\$ 31.68	\$ 288.00
Concrete	250	5	\$ 26.00	\$ 3,575.00	\$ 32,500.00
Asphalt	200	10	\$ 25.00	\$ 5,500.00	\$ 50,000.00

SURFSIDE ROAD TOTAL DESIGN COST: \$ 15,752.88
SURFSIDE ROAD TOTAL MAGNITUDE OF COST: \$ 143,208.00

2. Pleasant Street

(Option A) Convert the existing two-way traffic pattern on Pleasant St. to a one-way traffic patter in the westbound direction between Sparks Ave and the Five Corners intersection.

2.1.A Pleasant Street between Sparks Ave and West Creek Ro (approx. 190 ft)

- 2.1.1.A Provide 12-foot wide one-way travel lane on Pleasant Street
- 2.1.2.A Construct an 8-foot wide brick sidewalk with granite curbing on both sides of Pleasant Street

Material	Length (ft)	Width (ft)	Unit Cost	Design Cost	Construction Cost
Asphalt Rd	190	12	\$ 35.00	\$ 8,778.00	\$ 79,800.00
Brick	190	16	\$ 27.00	\$ 9,028.80	\$ 82,080.00

2.2.A Pleasant Street between West Creek Road and Daves Street (approx. 425 ft)

- 2.2.1.A Provide an 8-foot wide parallel parking lane along the south side of Pleasant Street
- 2.2.2.A Provide a 10-foot wide one-way travel lane
- 2.2.3.A Provide a 16-foot wide angle parking lane
- 2.2.4.A Construct a 6-foot wide cobblestone lane on Pleasant St between the angle parking lane and the one-way travel lane
- 2.2.5.A Construct an 8-foot wide brick sidewalk with granite curbing on both sides of Pleasant Street

Asphalt	425	8	\$ 25.00	\$ 9,350.00	\$ 85,000.00
Asphalt Rd	425	10	\$ 35.00	\$ 16,362.50	\$ 148,750.00
Asphalt Rd	425	16	\$ 35.00	\$ 26,180.00	\$ 238,000.00
Cobble	425	6	\$ 28.00	\$ 7,854.00	\$ 71,400.00
Brick	425	16	\$ 27.00	\$ 20,196.00	\$ 183,600.00

2.3.A Pleasant Street between Daves Street and Cherry Street (approx. 1,300 ft)

- 2.3.1.A Provide an 8-foot wide parallel parking lane along both sides of Pleasant St
- 2.3.2.A Provide a 10-foot wide one-way travel lane
- 2.3.3.A Construct an 8-foot brick sidewalk with granite curbing on both sides of Pleasant Street

Asphalt Rd	1300	16	\$ 35.00	\$ 80,080.00	\$ 728,000.00
Asphalt Rd	1300	10	\$ 35.00	\$ 50,050.00	\$ 455,000.00
Brick	1300	16	\$ 27.00	\$ 61,776.00	\$ 561,600.00

2.4.A Pleasant Street between Williams Street and Garder Perry Lane (approx. 520 ft)

- 2.4.1.A Provide 11-foot one-way travel lane
- 2.4.2.A Construct an 8-foot brick sidewalk with granite curbing on both sides of Pleasant Street

Asphalt Rd	520	11	\$ 35.00	\$ 22,022.00	\$ 200,200.00
Brick	520	16	\$ 27.00	\$ 24,710.40	\$ 224,640.00

2.5.A Pleasant Street between Gardner Perry Lane and Atlantic Ave (approx. 500 ft)

- 2.5.1.A Provide and 8-foot wide parallel parking lane on south side of Pleasant Street
- 2.5.2.A Provide a 10-foot wide one-way travel lane
- Construct a 5-8 foot wide brick sidewalk with granite curbing on both sides of Pleasant Street

Asphalt Rd	500	8	\$ 35.00	\$ 15,400.00	\$ 140,000.00
Asphalt Rd	500	10	\$ 35.00	\$ 19,250.00	\$ 175,000.00
Brick	500	8	\$ 27.00	\$ 11,880.00	\$ 108,000.00

PLEASANT STREET OPTION A TOTAL DESIGN COST: \$ 382,917.70
PLEASANT STREET OPTION A TOTAL MAGNITUDE OF COST: \$ 3,481,070.00

Table 1

Order of Magnitude
Cost Estimate

Nantucket Bicycle and Pedestrian Master Plan

(Option B) Preserve existing traffic pattern along Pleasant Street and ancillary streets.**2.1.B Pleasant Street between Sparks Ave and West Creek Ro (approx. 190 ft)**

2.1.1.B Construct an 8-foot wide brick sidewalk with granite curbing on both sides of Pleasant Street

2.1.2.B Provide two 10-foot wide two-way travel lanes

2.2.B Pleasant Street between West Creek Road and Daves Street (approx. 425 ft)

2.2.1.B Provide an 8-foot wide parallel parking lane along both sides of Pleasant Street

2.2.2.B Provide two 10-foot wide two-way travel lanes

2.2.3.B Construct an 8-foot wide brick sidewalk with granite curbing on both sides of Pleasant Street

2.3.B Pleasant Street between Daves Street and Cherry Street (approx. 1,300 ft)

2.3.1.B Provide an 8-foot wide parallel parking lane along both sides of Pleasant St

2.3.2.B Provide two 10-foot wide two-way travel lanes

2.3.3.B Construct an 8-foot brick sidewalk with granite curbing on both sides of Pleasant Street

2.4.B Pleasant Street between Williams Street and Five Corners (approx. 1020 ft)

2.4.1.B Construct a 5-8 foot wide brick sidewalk with granite curbing on both sides of Pleasant Street

2.4.2.B Provide two 10-foot wide two-way travel lanes

Material	Length (ft)	Width (ft)	Unit Cost	Design Cost	Construction Cost
Brick	190	16	\$ 27.00	\$ 9,028.80	\$ 82,080.00
Asphalt Rd	190	20	\$ 35.00	\$ 14,630.00	\$ 133,000.00
Asphalt Rd	425	16	\$ 35.00	\$ 26,180.00	\$ 238,000.00
Asphalt Rd	425	20	\$ 35.00	\$ 32,725.00	\$ 297,500.00
Brick	425	16	\$ 27.00	\$ 20,196.00	\$ 183,600.00
Asphalt Rd	1300	16	\$ 35.00	\$ 80,080.00	\$ 728,000.00
Asphalt Rd	1300	20	\$ 35.00	\$ 100,100.00	\$ 910,000.00
Brick	1300	16	\$ 27.00	\$ 61,776.00	\$ 561,600.00
Asphalt	1020	18	\$ 25.00	\$ 50,490.00	\$ 459,000.00
Brick	1020	20	\$ 27.00	\$ 60,588.00	\$ 550,800.00
Asphalt Rd			\$ 35.00		

PLEASANT STREET OPTION B TOTAL DESIGN COST: \$ 455,793.80**PLEASANT STREET OPTION B TOTAL MAGNITUDE OF COST: \$ 4,143,580.00****3.0 Nantucket Cottage Hospital: Prospect Street to Vesper Lane****Option A**

3.1.A Construct a 10-foot wide bicycle path, 1,080 ft long, connecting Prospect St and Vesper Lane along a portion of Chicken Hill and N. Mill Street

Material	Length (ft)	Width (ft)	Unit Cost	Design Cost	Construction Cost
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OPTION A COSTS

Asphalt 1080 10 \$ 25.00 \$ 29,700.00 \$ 270,000.00

Option B

3.1.B Construct a 10-foot wide bicycle path, 865 ft long, connecting Prospect St and Vesper Lane along a portion of the Hospital Property

OPTION B COSTS

Asphalt 865 10 \$ 25.00 \$ 23,787.50 \$ 216,250.00

Option C

3.1.C Construct a 10-foot bicycle path, 360 ft long, connecting Prospect St and Vesper Lane along the eastern portion of the Hospital property, and along the western portion of the Hospital Property

OPTION C COSTS

Asphalt 360 10 \$ 25.00 \$ 9,900.00 \$ 90,000.00

4.0.A Sparks Avenue (Option A) Combination 5-foot and 8 to 10-foot sidewalks**4.1.A Sparks Ave between Milestone Rotary and Pleasant St. Roundabout**

4.1.1.A Construct 5 ft wide brick sidewalk with granite curbing along the north side of Sparks Ave. A 3 ft grass strip should be provided to separate the travel lane and sidewalk where possible.

4.1.2.A Construct 8 to 10 ft asphalt sidewalk with asphalt curbing along the south side of Sparks Ave.

4.2.A Sparks Ave between Pleasant St. Roundabout and Williams Ln

4.2.1.A Construct 5 ft wide brick sidewalk with granite curbing along the north side of Sparks Ave. A 3 ft grass strip should be provided to separate the travel lane and sidewalk where possible.

4.2.2.A Construct 8 to 10 ft asphalt sidewalk with asphalt curbing along the south side of Sparks Ave.

Material	Length (ft)	Width (ft)	Unit Cost	Design Cost	Construction Cost
Brick	450	5	\$ 27.00	\$ 6,682.50	\$ 60,750.00
Grass	450	3	\$ 6.00	\$ 891.00	\$ 8,100.00
Asphalt	450	10	\$ 25.00	\$ 12,375.00	\$ 112,500.00
Asphalt	2300	5	\$ 25.00	\$ 31,625.00	\$ 287,500.00
Grass	2300	3	\$ 6.00	\$ 4,554.00	\$ 41,400.00
Asphalt	2300	10	\$ 25.00	\$ 63,250.00	\$ 575,000.00

SPARKS AVENUE OPTION A TOTAL DESIGN COST: \$ 119,377.50**SPARKS AVENUE OPTION A TOTAL MAGNITUDE OF COST: \$ 1,085,250.00**

Table 1

**Order of Magnitude
Cost Estimate**

Nantucket Bicycle and Pedestrian Master Plan

4.0.B Sparks Avenue (Option B) Combination 5-foot sidewalks and 4-foot bike lanes

4.1.B Sparks Ave between Milestone Rotary and Pleasant St. Roundabout

4.1.1.B Construct 5 ft wide brick sidewalk with granite curbing along the north side of Sparks Ave. A 3 ft grass strip should be provided to separate the travel lane and sidewalk where possible.

4.1.2.B Construct 5 ft wide asphalt sidewalk with asphalt curbing along south side of Sparks Ave

4.1.2.B Provide a 4 ft wide bicycle lane on both sides of Sparks Ave. between the travel lane and the sidewalk

4.2.B Sparks Ave between Pleasant St. Roundabout and Williams Ln

4.2.1.B Construct 5 ft wide brick sidewalk with granite curbing along the north side of Sparks Ave. A 3 ft grass strip should be provided to separate the travel lane and sidewalk where possible. and Vesper Lane along a portion of the Hospital Property

4.2.2.B Construct 5 ft wide asphalt sidewalk with asphalt curbing along south side of Sparks Ave

4.2.3.B Provide a 4-5 ft wide bicycle lane on both sides of Sparks Ave. between the travel lane and the sidewalk

Material	Length (ft)	Width (ft)	Unit Cost	Design Cost	Construction Cost
Brick	450	5	\$ 27.00	\$ 6,682.50	\$ 60,750.00
Grass	450	3	\$ 6.00	\$ 891.00	\$ 8,100.00
Asphalt	450	5	\$ 25.00	\$ 6,187.50	\$ 56,250.00
Asphalt	450	8	\$ 25.00	\$ 9,900.00	\$ 90,000.00
Brick	2300	5	\$ 27.00	\$ 34,155.00	\$ 310,500.00
Grass	2300	3	\$ 6.00	\$ 4,554.00	\$ 41,400.00
Asphalt	450	5	\$ 25.00	\$ 6,187.50	\$ 56,250.00
Asphalt	450	10	\$ 25.00	\$ 12,375.00	\$ 112,500.00

SPARKS AVENUE OPTION B TOTAL DESIGN COST: \$ 80,932.50
SPARKS AVENUE OPTION B TOTAL MAGNITUDE OF COST: \$ 735,750.00

5.0.A Orange Street (Option A) Combination of 5-foot and 8 to 10-foot sidewalks

5.1.A Orange Street

5.1.1.A Construct 5 ft wide brick sidewalk with granite curbing on the northeastern side of Orange St between the Milestone Rotary and Bear St. A 3 ft grass strip should be provided to separate the travel lane and sidewalk wherever possible.

5.1.2.A Construct an 8 ft wide brick sidewalk with granite curbing on southwestern side of Orange Street between the Milestone Rotary and Bear St

5.2.A Old Railroad Right-of-Way

5.2.1.A Construct bicycle path (material to be determined) along existing berm, connecting end of Washington St Extension to Orange St at Bear St intersection, a distance of 800 ft (additional easements may be needed)

5.3.A Washington Street Bicycle Route

5.3.1.A Designate Washington St as a class III bicycle route with share-the-road signage between the Old Railroad Right-of-Way to Commercial Street

Material	Length (ft)	Width (ft)	Unit Cost	Design Cost	Construction Cost
Brick	1950	5	\$ 27.00	\$ 28,957.50	\$ 263,250.00
Grass	1950	3	\$ 6.00	\$ 3,861.00	\$ 35,100.00
Asphalt	1950	8	\$ 25.00	\$ 42,900.00	\$ 390,000.00
Asphalt	800	10	\$ 25.00	\$ 22,000.00	\$ 200,000.00
Alum	# of signs 4	sf 16	\$ 18.00	\$ 126.72	\$ 1,152.00

ORANGE STREET OPTION A TOTAL DESIGN COST: \$ 97,845.22
ORANGE STREET OPTION A TOTAL MAGNITUDE OF COST: \$ 889,502.00

Table 1

**Order of Magnitude
Cost Estimate**

Nantucket Bicycle and Pedestrian Master Plan

5.0.B Orange Street (Option B) Combination of 5-ft sidewalks, 4-ft bike lanes and bike route

5.1.B Orange Street

5.1.1.B Construct 5 ft wide brick sidewalk with granite curbing on the northeastern side of Orange St between the Milestone Rotary and Bear St. A 3 ft grass strip should be provided to separate the travel lane and sidewalk wherever possible.

5.1.2.B Construct a 5-foot wide brick sidewalk with granite curbing along southwestern side of Orange St between the Milestone Rotary and Union St. A 3 ft grass strip should be provided to separate travel lane and sidewalk where possible.

5.1.3.B Provide a 4-5 ft wide bicycle lane on both sides of Orange St between the travel lane and the sidewalk

5.2.B Union Street and Upper Orange Street Bicycle Route

5.2.1.B Construct bicycle path on existing berm, connecting end of Washington St Extension to Orange St at Bear St intersection, a distance of 800 ft (easements required near Goose Pond Lane, a private road)

Material	Length (ft)	Width (ft)	Unit Cost	Design Cost	Construction Cost
Brick	2400	5	\$ 27.00	\$ 35,640.00	\$ 324,000.00
Grass	2400	3	\$ 6.00	\$ 4,752.00	\$ 43,200.00
Brick	1950	5	\$ 27.00	\$ 28,957.50	\$ 263,250.00
Grass	1950	3	\$ 6.00	\$ 3,861.00	\$ 35,100.00
Asphalt	2400	10	\$ 25.00	\$ 66,000.00	\$ 600,000.00
Asphalt	800	10	\$ 25.00	\$ 22,000.00	\$ 200,000.00
ORANGE STREET OPTION B TOTAL DESIGN COST:					\$ 161,210.50
ORANGE STREET OPTION B TOTAL MAGNITUDE OF COST:					\$ 1,465,550.00

6.0 Prospect Street and Quaker Road

6.1 Prospect Street between Surfside Rd and W. York Ln

6.1.1 Construct a 5 ft wide brick sidewalk with granite curbing on the southwest side of Prospect St between Surfside Rd and W. York Ln

6.2 Prospect Street between W. York Ln and 27 Prospect St

6.2.1 Construct a 10 ft wide bicycle path along the southwestern side of Prospect Street between W. York Ln and 27 Prospect St

6.3 Prospect St between 27 Prospect St and Milk St

6.3.1 Construct a 5 ft wide brick sidewalk with granite curbing on the southwest side of Prospect St between 27 Prospect St and Milk St

6.4 Quaker Road

6.4.1 Construct an approximately 5 ft wide asphalt sidewalk with granite curbing or multi-use lane with appropriate striping along the western side of Quaker Road between Madaket Road and Milk St

Material	Length (ft)	Width (ft)	Unit Cost	Design Cost	Construction Cost
brick	250	5	\$ 27.00	\$ 3,712.50	\$ 33,750.00
asphalt	1500	10	\$ 25.00	\$ 41,250.00	\$ 375,000.00
brick	900	5	\$ 27.00	\$ 13,365.00	\$ 121,500.00
asphalt	900	5	\$ 25.00	\$ 12,375.00	\$ 112,500.00
PROSPECT STREET AND QUAKER ROAD TOTAL DESIGN COST:					\$ 70,702.50
PROSPECT STREET AND QUAKER ROAD TOTAL MAGNITUDE OF COST:					\$ 642,750.00

7.0 Bicycle Improvement: Nobadeer Farm Road to Nantucket Memorial Airport

7.1 Nobadeer Farm Road

7.1.1 Construct a 10 ft wide bicycle path, 960 ft long, along the west side of Nobadeer Farm Road, 50 ft from the right-of-way edge, beginning at the Milestone Rd bike path

7.2 Nobadeer Farm Road

7.2.1 Construct a 10 ft wide bicycle path between Macys Ln and an area along Nobadeer Farm Rd 450 ft north of Sun Island Rd. The bicycle path should be along the western edge of the property abutting the west side of Nobadeer Farm Rd

7.2.1 Appropriate lighting for safety should be provided

7.3 Nobadeer Farm Road

7.3.1 Section A - Priority

7.3.1.1 Construct an 8 ft brick sidewalk with granite curbing along the east side of Nobadeer Farm Rd between Sun Island Rd and Old South Rd

7.3.2 Section B - Secondary

7.3.2.1 Construct an 8 ft brick sidewalk with granite curbing along the west side of Nobadeer Farm Rd between Sun Island Rd and Old South Rd

Material	Length (ft)	Width (ft)	Unit Cost	Design Cost	Construction Cost
Asphalt	960	10	\$ 25.00	\$ 26,400.00	\$ 240,000.00
Asphalt	1500	10	\$ 25.00	\$ 41,250.00	\$ 375,000.00
Lighting	# of lights 5		\$ 800.00	\$ 396.00	\$ 3,600.00
Brick	1575	8	\$ 27.00	\$ 37,422.00	\$ 340,200.00
Brick	1575	8	\$ 27.00	\$ 37,422.00	\$ 340,200.00
NOBADEER FARM RD TOTAL DESIGN COST:					\$ 142,890.00
NOBADEER FARM RD TOTAL MAGNITUDE OF COST:					\$ 1,299,000.00

Table 1

**Order of Magnitude
Cost Estimate**

Nantucket Bicycle and Pedestrian Master Plan

		Material	Length (ft)	Width (ft)	Unit Cost	Design Cost	Construction Cost
8.0 Bicycle Improvement: Bartlett Road to Hummock Pond Road (Short-Term)							
8.1 Bartlett Road							
8.1.1	Where possible, re-connect the existing 6 ft asphalt facility to a 10 ft path	Asphalt	2000	10	\$ 25.00	\$ 55,000.00	\$ 500,000.00
8.2 Bartlett Road							
8.2.1	Complete connection of Surfside Bicycle Path to Somerset Bicycle Route by constructing a 10 ft wide bicycle path along the south side of Bartlett Road in the vicinity of Mizzenmast Road	Asphalt	1200	10	\$ 25.00	\$ 33,000.00	\$ 300,000.00
8.3 Somerset Road/Lane							
8.3.1	Designate as a bicycle route connecting Hummock Pond Bicycle Route and Bartlett Bicycle Path	Alum	# of signs 4	sf 16	\$ 18.00	\$ 138.24	\$ 1,152.00
BARTLETT ROAD TOTAL DESIGN COST:						\$ 88,000.00	
BARTLETT ROAD TOTAL MAGNITUDE OF COST:						\$ 800,000.00	
9.0 Hummock Pond Road and Milk Street							
9.1 Hummock Pond Road							
9.1.1	Construct a 10 ft wide bicycle path along Hummock Pond Rd from the intersection of Vesper Ln, Hummock Pond Rd, and Somerset Rd, to the intersection of Hummock Pond Road and Milk St	Asphalt	1500	10	\$ 25.00	\$ 41,250.00	\$ 375,000.00
9.2 Milk Street							
9.2.1	Designate as a bicycle route from Garner St to Hummock Pond Rd	Alum	4	16	\$ 18.00	\$ 126.72	\$ 1,152.00
9.3 Hummock Pond Road							
9.3.1	Construct a 10 ft wide bicycle path along Hummock Pond Rd between Milk St and Cisco Beach	Asphalt	14700	10	\$ 25.00	\$ 404,250.00	\$ 3,675,000.00
HUMMOCK POND ROAD TOTAL DESIGN COST:						\$ 445,626.72	
HUMMOCK POND ROAD TOTAL MAGNITUDE OF COST:						\$ 4,051,152.00	
10.0 Cliff Road							
10.1 Cliff Road bicycle path extension							
10.1.1	Construct a 10 ft wide bicycle path along the north side of Cliff Rd between Crooked Ln and Sherburne Turnpike	Asphalt	2500	10	\$ 25.00	\$ 68,750.00	\$ 625,000.00
10.2 Cliff Road bicycle path extension							
10.2.1	Construct a 10 ft wide bicycle path along the north side of Cliff Rd between Sherburne Turnpike and N. Liberty St	Asphalt	1300	10	\$ 25.00	\$ 35,750.00	\$ 325,000.00
10.3 Cliff Road bicycle path extension							
10.3.1	Provide unobstructed bicycle and pedestrian accommodations between N Liberty St and Westchester St	Asphalt	2100	10	\$ 25.00	\$ 57,750.00	\$ 525,000.00
CLIFF POND ROAD TOTAL DESIGN COST:						\$ 162,250.00	
CLIFF POND ROAD TOTAL MAGNITUDE OF COST:						\$ 1,475,000.00	

Table 1

**Order of Magnitude
Cost Estimate**

Nantucket Bicycle and Pedestrian Master Plan

	Material	Length (ft)	Width (ft)	Unit Cost	Design Cost	Construction Cost
11.0 Madaket Bicycle Path						
11.1 Series of Reverse Horizontal Curves 1,000-feet west of Millbrook Road						
11.1.1 Short Term Plan		# of signs	sf			
11.1.1.1 Install Warning Signs (W1-1)	Alum	4	16	\$ 18.00	\$ 126.72	\$ 1,152.00
11.1.1.2 Relocate utility pole and box	N/A	N/A	N/A	\$ 2,500.00	\$ 275.00	\$ 2,500.00
11.1.1.3 Upgrade split rail fence to conform with AASHTO Guidelines	N/A	N/A	N/A	\$ 5,000.00	\$ 550.00	\$ 5,000.00
11.1.1.4 Study operational characteristics of this section	N/A	N/A	N/A	\$ 5,000.00	\$ 550.00	\$ 5,000.00
11.1.1.15 Comprehensive accident analysis of this section	N/A	N/A	N/A	\$ 2,500.00	\$ 275.00	\$ 2,500.00
11.1.2 Mid Term Plan, if Short Term Plan Fails						
Widen pavement cross section within the horizontal curves to increase the effective width of the path, or	Asphalt	1880	10	\$ 25.00	\$ 51,700.00	\$ 470,000.00
11.1.2.2. Realign/upgrade to improve operating conditions						
11.2 Areas of No-Median Separation						
11.2.1 Study the feasibility of reconstructing the path where possible to include a 4 ft median separation or installing channelizers at edge of roadway	Grass	5280	4	\$ 10.00	\$ 23,232.00	\$ 211,200.00
11.3 Improve Access to the Bicycle Facility Entrance						
11.3.1 Install crosswalk across Main Street from Caton Circle to Quaker Road	Thermo	30	2	\$ 7.00	\$ 46.20	\$ 420.00
11.3.2 Install crosswalk across Quaker Road linking existing bicycle facility with Main Street	Thermo	30	2	\$ 7.00	\$ 50.40	\$ 420.00
11.3.3 Install bicycle crossing signs (W11-1) at all approaches	Alum	4	16	\$ 18.00	\$ 138.24	\$ 1,152.00
11.3.4 Widen the entrance throats and provide entering and exiting direction arrows on the pavement	Asphalt	100	10	\$ 25.00	\$ 3,000.00	\$ 25,000.00
MADAKET BICYCLE PATH TOTAL DESIGN COST:						\$ 26,466.84
MADALET BICYCLE PATH TOTAL MAGNITUDE OF COST:						\$ 238,192.00
12.0 Quidnet Road						
12.1 Quidnet Road						
12.1.1 Construct bicycle path on the north side of Quidnet Road between Polpis Road and Squam Road (6,860 ft)	Asphalt	6860	10	\$ 25.00	\$ 188,650.00	\$ 1,715,000.00
QUIDNET ROAD TOTAL DESIGN COST:						\$ 188,650.00
QUIDNET ROAD TOTAL MAGNITUDE OF COST:						\$ 1,715,000.00
13.0 Tom Nevers Road						
13.1 Tom Nevers Road						
13.1.1 Construct bicycle path on the east side of Tom Nevers Road (7,390 ft)	Asphalt	7390	10	\$ 25.00	\$ 203,225.00	\$ 1,847,500.00
13.1.2 Project is considered a low priority						
13.2 Tom Nevers Road						
13.2.1 Construct bicycle path along Tom Nevers Road between Old Tom Nevers Road and the Tom Nevers Playing Fields (4,300 ft)	Asphalt	4300	10	\$ 25.00	\$ 129,000.00	\$ 1,075,000.00
13.2.2 Project is considered a low priority						
TOM NEVERS ROAD TOTAL DESIGN COST:						\$ 332,225.00
TOM NEVERS ROAD TOTAL MAGNITUDE OF COST:						\$ 2,922,500.00
14.0 Bear Street between Orange Street and Pleasant Street						
14.1 Bear Street between Orange Street and Pleasant Street						
14.1.1 Reconstruct roadway to provide a one-way travel lane and separated bicycle path between Pleasant St and Orange St	Asphalt	725	10	\$ 25.00	\$ 19,937.50	\$ 181,250.00
14.1.2 Install crosswalk on Orange St, connecting Bear St bicycle path to new path along old railroad right-of-way	Thermo	30	2	\$ 7.00	\$ 46.20	\$ 420.00
14.1.3 Install Bicycle Crossing sign (W11-1) on both sides of Orange St 250 ft in advance of crossing	Alum	# of signs 2	sf 16	\$ 18.00	\$ 63.36	\$ 576.00
14.1.4 Trim vegetation along Orange St to improve sight distance at crossing	N/A	N/A	N/A	\$ 2,500.00	\$ 300.00	\$ 2,500.00
14.1.5 Project is considered a low priority						
BEAR STREET TOTAL DESIGN COST:						\$ 20,347.06
BEAR STREET TOTAL MAGNITUDE OF COST:						\$ 184,746.00

Table 1

**Order of Magnitude
Cost Estimate**

Nantucket Bicycle and Pedestrian Master Plan

15.0 Boys Club Property**15.1 Boys and Girls Club between Pleasant Street and Sparks Avenue**

- 15.1.1 Construct bicycle path, 400 ft long, connecting Sparks Avenue and Pleasant St across southeastern edge of Boys Club property (easement req)
- 15.1.2 Install crosswalk across Pleasant St, Linking proposed bicycle path between Boys Club site and Bear St
- 15.1.3 Install Bicycle Crossing (W11-1) on both sides of Pleasant St 250 ft in advance of crossing
- 15.1.4 Project is considered a low priority

Material	Length (ft)	Width (ft)			Design Cost	Construction Cost
Asphalt	350	10	\$	25.00	\$ 9,625.00	\$ 87,500.00
Thermo	30	2	\$	7.00	\$ 46.20	\$ 420.00
Alum	# of signs 2	16	\$	18.00	\$ 63.36	\$ 576.00

BOYS CLUB PROPERTY TOTAL DESIGN COST: \$ 9,734.56
BOYS CLUB PROPERTY TOTAL MAGNITUDE OF COST: \$ 88,496.00

16.0 Washington Street, Francis Street and Union Street**16.1 Washington Street, Francis Street and Union Street**

- 16.1.1 Upgrade existing sidewalks on Washington St and Francis St and on Union St between Francis St and Orange St
- 16.1.1.1 Washington Street
- 16.1.1.2 Francis Street
- 16.1.1.3 Union Street

Material	Length (ft)	Width (ft)			Design Cost	Construction Cost
Asphalt	1700	5	\$	25.00	\$ 23,375.00	\$ 212,500.00
Asphalt	300	5	\$	25.00	\$ 4,125.00	\$ 37,500.00
Asphalt	1300	5	\$	25.00	\$ 17,875.00	\$ 162,500.00

WASHINGTON, FRANCIS AND UNION STREETS TOTAL DESIGN COST: \$ 45,375.00
WASHINGTON, FRANCIS AND UNION STREETS TOTAL MAGNITUDE OF COST: \$ 412,500.00

PHASE II – PAVEMENT CONDITION RATING

The six existing bike paths in the Town were evaluated using a pavement rating system that was developed by the Ohio Department of Transportation. The entire length of each path was driven and any defects in the pavement were noted and located based on the odometer reading. The individual bike paths were broken down into segments approximately one mile in length. Each segment was evaluated and a Pavement Condition Rating (PCR) for each segment was calculated.

Table 2 illustrates the summary PCRs for each bike path. The results of the field investigations for the individual sections are included in Appendix B.

Existing Conditions

Following is a brief description of the existing conditions of each bike path.

Milestone Road Bike Path

The Milestone Road bike path starts at the intersection of Milestone Road and Old South Road and continues east along the south side of Milestone Road for approximately 6.4 miles. The path was originally constructed in 1968 and, according to Town sources, was widened and overlaid in 1998.

The Milestone bike path was divided into eight test sections. Each section was evaluated separately and the cumulative Pavement Condition Rating was determined for the entire path. The test was started at the Old South Road end of the path and continued due east. The results for each test section are included in Appendix C. The overall Pavement Condition Rating for the Milestone Road Bike Path is 93.4, which corresponds with a Very Good rating.

The following minor deficiencies have been identified by their approximate mileage along each section.

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan



Isolated de-bonding at mile 1.2



Minor Base Failure at mile 0.9



Transverse Crack at mile 2.5



Minor upheaval caused by tree roots at mile 3.5



Minor edge cracking at mile 4.3

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

Recommendations

The Milestone Road Bike Path is in very good condition with an overall PCR of 94.0. While the pavement should be re-evaluated every five years, the following minor repairs are recommended.

Edge Cracking is present occasionally with low to medium severity. However in test section 1 the edge cracking is extensive. At this time no repairs are recommended to correct the edge cracking.

Pressure Damage / Upheaval is generally not present with the exception of an isolated location at mile 3.4. At this time, it is recommended that no repairs are performed and that the location is re-evaluated in five years.

Transverse Cracks are present occasionally with low to high severity. It is recommended that the transverse cracks are sawed and sealed. It is estimated that there are approximately 10 cracks per section that need to be repaired.

Quantity = 10 cracks per section x 8 linear feet per crack x 8 sections = 640 LF
Cost = 640 LF x \$5.50/LF = \$3520.00

Base Failure: is occasionally present with low. At this time, it is recommended that no repairs are performed and that the pavement be re-evaluated in five years.

Surface Disintegration or Debonding is present in an isolated location at approximately mile 1.2. It is recommended that the section of damaged pavement be removed and reconstructed with full depth pavement.

Quantity = 5 feet x 5 feet = 25 SF
Cost = 25 SF x \$4.00/SF = \$100.00

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

Surfside Road Bike Path

The Surfside Road Bike Path starts at the intersection of Vesper Lane and Surfside Road and continues south along Surfside Road for approximately 2.5 miles to Surfside Beach. The path was constructed in 1977.

The Surfside Road bike path was divided into three test sections. Each section was evaluated separately and the cumulative Pavement Condition Rating was determined for the entire path. The test was started at the Vesper Lane end of the path and continued due south. The results for each test section are included in Appendix D. The overall Pavement Condition Rating for the Surfside Road Bike Path is 97.8, which corresponds with a Very Good rating.

The following minor deficiencies have been identified by their approximate mileage along each section.



Minor de-bonding at Miacomet Avenue



High severity edge cracking at intersecting driveway (typical)

Recommendations

The Surfside Road Bike Path is in very good condition with an overall PCR of 97.8. While the pavement should be re-evaluated every five years, the following minor repairs are recommended.

Raveling is present occasionally with low severity. At this time no repair is required.

Base Failure is present occasionally with low severity. At this time no repair is required.

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Update of the Nantucket Bicycle and Pedestrian Master Plan

Edge Cracking is present occasionally with low severity. However, at a few intersecting non paved driveways, the edge cracking could be considered high severity. At this time no repair is required, however when the path is eventually repaved, the aprons to abutting driveways should be extended to avoid this problem in the future.

Madaket Road Bike Path

The path starts at the intersection of Madaket Road and Ames Avenue and continues along the south side of Madaket Road for approximately 5.2 miles. The path was originally constructed in 1987.

The Madaket Road bike path was divided into six test sections. Each section was evaluated separately and the cumulative Pavement Condition Rating was determined for the entire path. The test was started at the Ames Avenue end of the path and continued due east. The results for each test section are included in Appendix E. The overall Pavement Condition Rating for the Madaket Road Bike Path is 89.6, which corresponds with a Good rating.

The following minor deficiencies have been identified by their approximate mileage along each section.



Settlement at catch basin mile 0.6



Typical edge cracking at joint
between roadway and bike path

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan



High severity upheaval caused by tree roots



Base failure along edge mile 3.4



Base failure and possible
retaining wall failure at Long Pond



Utility patch at mile 5.0

Recommendations

The Madaket Road Bike Path is in good condition overall with a PCR of 89.6. While the pavement should be re-evaluated every five years, the following minor repairs are recommended.

Raveling is present occasionally with low severity. At this time no repair is required.

Patching is present at an isolated location at mile 0.3. This utility patch should be repaired with a full depth patch within the next five years, as it will probably continue to settle.

Quantity = 30 feet long x 12 feet wide = 360 SF

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

Cost = 360 SF x \$4.00/SF = \$1440.00

Surface Disintegration or Debonding is present occasionally with a low severity. The majority of the debonding occurs where the bike path pavement is adjacent to the roadway pavement. At this time no repair is recommended. However, when the bike path is repaved, the roadway pavement should be sawcut providing for a better joint between the roadway pavement and the bike path pavement. Another location where minor debonding is occurring is at the entrance to the DPW yard. At this time, no repair is recommended, but consideration should be given to increasing the pavement box at this location when the bike path is repaved.

Base Failure is present occasionally with low severity. With the exception of an isolated location at mile 3.4, no repairs are necessary at this time. The isolated section should be repaired with full depth pavement.

Quantity = 5 feet long x 8 feet wide = 40 SF

Cost= 40 SF x \$4.00/SF = \$160.00

Settlements are present occasionally with low severity. Settlement generally occurs adjacent to the roadway pavement. These areas should be repaired with full depth pavement.

Quantity = 100 feet long x 8 feet wide = 800 SF

Cost= 800 SF x \$4.00/SF = \$3200.00

Transverse Cracks are present occasionally with low to medium severity. It is recommended that the transverse cracks are sawed and sealed. Assume that there are 10 cracks per section that need to be repaired.

Quantity = 10 cracks per section x 8 linear feet per crack x 6 sections =480 LF

Cost = 480 LF x \$5.50/LF =\$2640.00

Edge Cracking is present occasionally with low to medium severity. At this time, no repairs are recommended.

Pressure Damage / Upheaval is present occasionally with low to high severity. Isolated locations at mile 2.6 and mile 3.2 to 3.4 should be overlaid.

Quantity = 200 feet long x 8 feet wide = 1600 SF

Cost= 1600 SF x \$2.00/SF = \$3200.00

In addition to the repairs listed above, the wooden retaining wall at the culvert for Long Pond appears to be failing. This in turn is causing a base failure along the edge of the path. The wall

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

should be inspected by a structural engineer, with a new wall system designed and installed. The bike path pavement should be reconstructed at the same time as the retaining wall.

Cliff Road Bike Path

The path starts at the intersection of Madaket Road and Cliff Road and continues along the north side of Cliff Road for approximately 1.2 miles. The bike path was constructed in 1989.

The Cliff Road bike path was treated as one section. The test was started at the Madaket Road end of the path and continued due east. The results for the test section is included in Appendix F. The Pavement Condition Rating for the Cliff Road bike path is 91.3, which corresponds with a Very Good rating.

The following minor deficiencies have been identified by their approximate mileage along each section.



Debonding of overlay at Deacon's Way



Minor settlement of utility trench at mile 0.4



Minor base failure at mile 1.1



Utility patch at mile 1.1

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

Recommendations

The Cliff Road Bike Path is in good condition overall with a PCR of 91.3. The pavement should be re-evaluated every five years. The following minor deficiencies have been identified by their approximate mileage along each section.

Raveling is present occasionally with low severity. No repairs are recommended.

Patching is present at two isolated locations. No repairs are recommended at either location; however, they should be re-evaluated prior to reconstruction.

Surface Disintegration or Debonding is present at an isolated location at Deacons Way. No repairs are recommended at this time, however when overlays are performed, a key way should be constructed so that layers of pavement can butt against each other producing a solid joint.

Base Failure is present occasionally with low severity. No repairs are recommended at this time.

Transverse Cracks are present occasionally with low severity. No repairs are recommended at this time.

Edge Cracking is present occasionally with low severity. No repairs are recommended at this time.

Polpis Road Bike Path

The path starts at the intersection of Polpis Road and Milestone Road and continues along the south side of Polpis Road for approximately 8.2 miles. The path was originally constructed in 1998.

The Polpis Road bike path was divided into eight test sections. Each section was evaluated separately and the cumulative Pavement Condition Rating was determined for the entire path. The test was started at the Milestone Road end of the path and continued due east. The results for each test section are included in Appendix G. The overall Pavement Condition Rating for the Madaket Road Bike Path is 93.6, which corresponds with a Very Good rating.

The following minor deficiencies have been identified by their approximate mileage along each section.

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan



Minor base failure along edge
with minor edge cracking mile 0.5



Pavement patch at mile 1.1



Transverse joint at mile 2.5



Drainage trench at mile 3.2

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan



Base failure along edge mile 6.2



Base failure at mile 7.0

Recommendations

The Polpis Road Bike Path is in very good condition with an overall PCR of 93.6. The pavement should be re-evaluated every five years. The following minor deficiencies have been identified by their approximate mileage along each section.

Raveling is present occasionally with low severity. No repairs are recommended at this time.

Patching is present occasionally with low severity. However, there are two locations where utility trenches cross the bike path. The trench locations are at approximately mile 1.6 and mile 3.2. These trenches should be reconstructed with full depth pavement.

Quantity = 30 feet long x 8 feet wide = 240 SF
Cost = 240 SF x \$4.00/SF = \$960.00

Base Failure is present occasionally with low to moderate severity. There are two locations where the bike path should be reconstructed with full depth pavement. These locations are at approximately mile 6.2 and mile 7.0.

Quantity = 80 feet long x 8 feet wide = 640 SF
Cost = 640 SF x \$4.00/SF = \$2560.00

Pressure Damage Upheaval is present occasionally with low severity. No repairs are recommended at this time.

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

Edge Cracking is present occasionally with low severity. No repairs are recommended at this time.

Eel Point Road Bike Path

The path starts at the intersection of Eel Point Road and Madaket Road and continues along the east side of Eel Point Road for approximately 0.9 miles. The path was originally constructed in 2000.

The Eel Point Road bike path was treated as one section. The results for each test section are included in Appendix H. The test was started at the Madaket Road end of the path and continued due west. The Pavement Condition Rating for the Eel Point Road bike path is 99.0, which corresponds with a Very Good rating.

Very few minor deficiencies were present along the path. The deficiencies were limited to very minor edge cracking.



Minor edge cracking

Recommendations

The Eel Point Road Bike Path is in very good condition overall with very minor edge cracking in a few isolated locations. The pavement should be re-evaluated every five years. No repairs are recommended at this time.

Nantucket Bike Path Pavement Evaluation

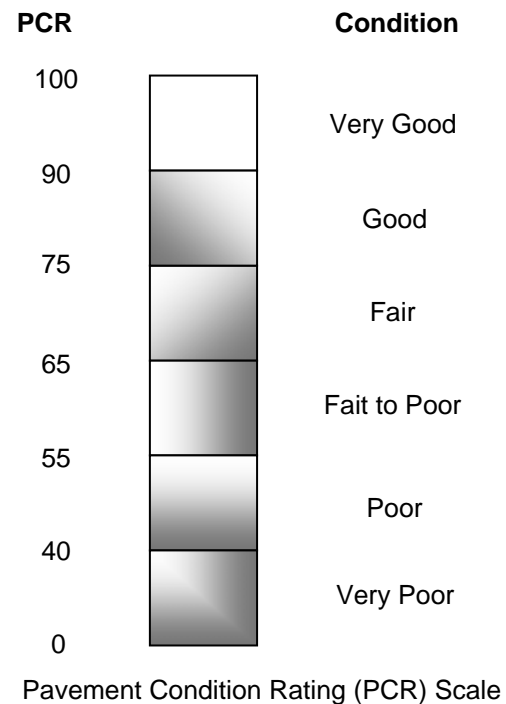
Prepared by: Greenman-Pedersen, Inc.
 Date of Inventory: August 24&25, 2005

Prepared for: Nantucket Planning and Economic Development Commission

Priority Order ¹	Path	Segment Number								Overall Path PCR
		1	2	3	4	5	6	7	8	
1	Milestone Road	91.5	93.3	95.8	88.1	94.7	95.0	95.3	98.0	94.0
2	Surfside Road	98.5	100.0	94.8						97.8
3	Madaket Road	89.6	87.5	87.0	89.8	91.3	91.3			89.4
4	Cliff Road	91.3								91.3
5	Polpis Road	94.8	92.4	94.8	94.9	92.9	93.3	91.9	90.5	93.2
6	Eel Point Road	99.0								99.0

¹ Town Priority Ranking for evaluation

PCR CONDITION RATING (Worst to Best)			
1	Madaket Road	89.4	Good
2	Cliff Road	91.3	Very Good
3	Polpis Road	93.2	Very Good
4	Milestone Road	94.0	Very Good
5	Surfside Road	97.8	Very Good
6	Eel Point Road	99.0	Very Good



TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

MAINTENANCE COSTS

Table 3 illustrates the estimated maintenance costs associated with each of the six existing bike paths.

Nantucket Bike Path Pavement Evaluation

Prepared by:
Date of Inventory:

Greenman-Pedersen, Inc.
August 24&25, 2005

Prepared for: Nantucket Planning and Economic Development Commission

Recommended Maintenance Plan																			
Path	Type Of Maintenance															Totals			
	Patching			Crack Sealing			Sweeping and Cleaning			Overlay			Other						
	Quantity SF	Cost	Time Frame	Quantity SF	Cost	Time Frame	Quantity SF	Cost	Time Frame	Quantity SF	Cost	Time Frame	Quantity SF	Cost	Time Frame	Immediate	Short Term	Long Term	Annual
Milestone Road	25	\$100	S	640	\$3,520	S	270000	\$1,300	A	N/A	\$0	N/A	N/A	\$0	N/A	\$0	\$3,620	\$0	\$1,300
Surfside Road	N/A	\$0	N/A	N/A	\$0	N/A	106000	\$500	A	N/A	\$0	N/A	N/A	\$0	N/A	\$0	\$0	\$0	\$500
Madaket Road	1200	\$4,800	S	480	\$2,640	S	240000	\$1,100	A	1600	\$3,200	S	1 LS	\$20,000	I	\$20,000	\$10,640	\$0	\$1,100
Cliff Road	N/A	\$0	N/A	N/A	\$0	N/A	60000	\$300	A	N/A	\$0	N/A	N/A	\$0	N/A	\$0	\$0	\$0	\$300
Polpis Road	880	\$3,520	S	N/A	\$0	N/A	350000	\$1,600	A	N/A	\$0	N/A	N/A	\$0	N/A	\$0	\$3,520	\$0	\$1,600
Eel Point Road	N/A	\$0	N/A	N/A	\$0	N/A	45000	\$200	A	N/A	\$0	N/A	N/A	\$0	N/A	\$0	\$0	\$0	\$200

Time Frame for Improvements

I = Immediate - within 1 year
S = Short Term - 1-5 years
L = Long Term - 5-10 Years
A = Annual

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

APPENDIX

Appendix A – NP&EDC Memorandum Re. Modified Project Descriptions

Appendix B – Pavement Condition Rating Procedures

Appendix C – Milestone Road Section PCR

Appendix D - Surfside Road Section PCR

Appendix E – Madaket Road Section PCR

Appendix F – Cliff Road Section PCR

Appendix G – Polpis Road Section PCR

Appendix H – Eel Point Road Section PCR

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

Appendix A – NP&EDC Memorandum Re. Modified Project Descriptions

PROPOSED CONSTRUCTION IMPROVEMENTS

The following recommendations for construction improvements provide a description of scope and magnitude-of-cost for improvements to, or expansion of, the bicycle and pedestrian transportation system throughout the island:

1. Surfside Road:



Project Description:

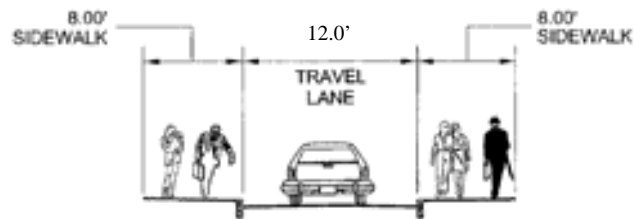
- 1.1 Surfside Road (*Listed as 1a in the 1994 Plan*)
 - On west side of road, beginning near First Way, widen existing 6-foot wide asphalt path by 4-feet for a distance of 600 feet to the north.
 - Install crosswalk at this location to connect to east side of road between two driveways to the High School.
 - Install Bicycle Crossing Sign (W11-1) 250 feet south of crossing on east side of road.
 - Widen existing 3-foot wide concrete sidewalk by 5 feet for a distance of 250 feet to the north.
 - Construct a bicycle path connecting Surfside Road and Sparks Avenue at southeastern part of intersection for a distance of 200 feet.

Magnitude of Cost:

<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length</u> <u>(Feet)</u>	<u>Add. Width</u> <u>(Feet)</u>	<u>Unit Cost</u>	<u>Design Cost</u>	<u>Construction</u> <u>Cost</u>
1.1	Surfside Rd. @ First Way	asphalt	600	4		\$0.00	\$0.00
	Surfside Rd. @ Highschool	concrete	250	5		\$0.00	\$0.00
	Sparks/Surfside	asphalt	200	10		\$0.00	\$0.00
Total			1,050			\$0.00	\$0.00

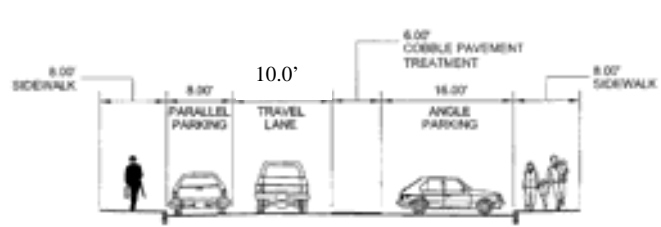
2. Pleasant Street *(listed as 2a and 5d in 1994 Plan)*

(Option A): Convert the existing two-way traffic pattern on Pleasant St. to a one-way traffic pattern in the westbound direction between Sparks Ave. and the Five-Corners intersection.

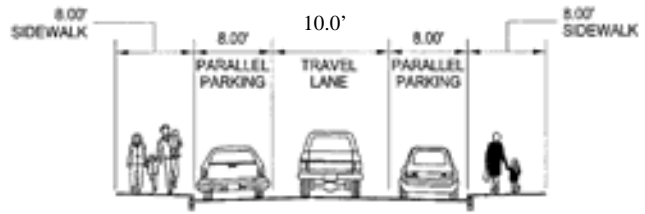


Project Description:

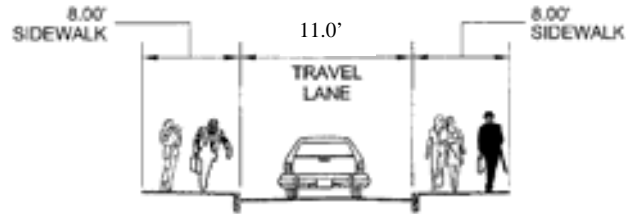
- 2.1 Pleasant St. between Sparks Ave. and West Creek Rd. (length = 190-feet)
- Provide a 12-foot wide one-way travel lane on Pleasant St.
 - Construct an 8-foot wide brick sidewalk with granite curbing on both sides of Pleasant St.



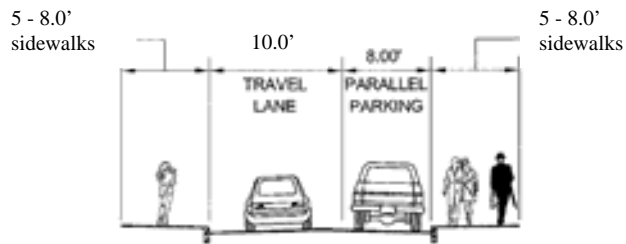
- 2.2 Pleasant St. between West Creek Rd. and Daves St. (length = 425-feet)
- Provide an 8-foot wide parallel parking lane along the south side of Pleasant St.
 - Provide a 10-foot wide one-way travel lane.
 - Provide a 16-foot wide angle parking lane.
 - Construct a 6-foot wide cobblestone lane on Pleasant St. between the angle parking lane and the one-way travel lane.
 - Construct an 8-foot wide brick sidewalk with granite curbing on both sides of Pleasant St.



- 2.3 Pleasant St. between Daves St. and Cherry St. (length = 1,300-feet)
- Provide an 8-foot wide parallel parking lane along both sides of Pleasant St.
 - Provide a 10-foot wide one-way travel lane.
 - Construct an 8-foot wide brick sidewalk with granite curbing on both sides of Pleasant St.



- 2.4 Pleasant St. between Williams St. and Gardner Perry Ln. (length = 520-feet)
- Provide an 11-foot one-way travel lane.
 - Construct an 8-foot wide brick sidewalk with granite curbing on both sides of Pleasant St.

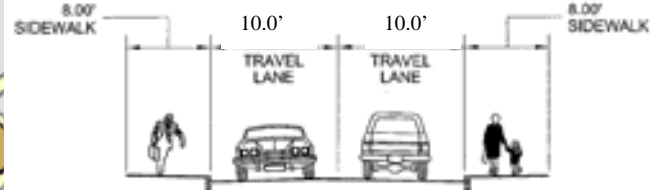


- 2.5 Pleasant St. between Gardner Perry Ln. and Atlantic Ave. (length = 500-feet)
- Provide an 8-foot wide parallel parking lane on south side of Pleasant St.
 - Provide a 10-foot wide one-way travel lane.
 - Construct a 5 to 8-foot wide brick sidewalk with granite curbing on both sides of Pleasant St.

Magnitude of Cost:

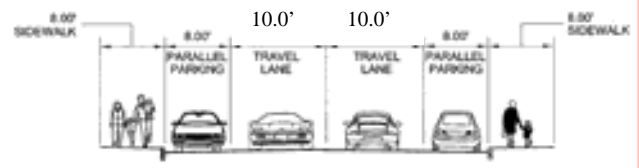
<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length</u> (Feet)	<u>Add. Width</u> (Feet)	<u>Unit Cost</u>	<u>Design Cost</u>	<u>Construction</u> <u>Cost</u>
2.1	Pleasant Street	brick	190	16		\$0.00	\$0.00
2.2	Pleasant Street	brick	425	16			
		cobblestone	425	6			
2.3	Pleasant Street	brick	1300	16			
2.4	Pleasant Street	brick	520	16			
2.5	Pleasant Street	brick	500	16			
Total			3,360			\$0.00	\$0.00

(Option B): Preserve existing traffic pattern along Pleasant St. and ancillary streets.

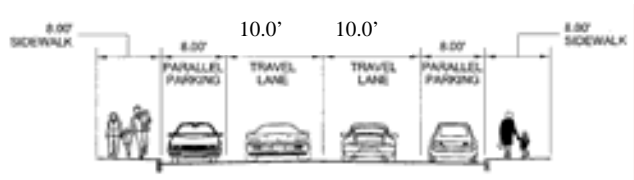


Project Description:

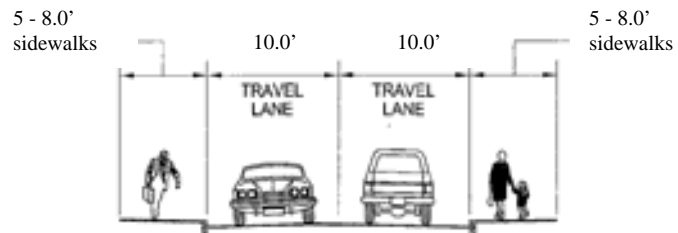
- 2.1 Pleasant St. between Sparks Ave. and West Creek Rd. (length = 190-feet)
- Construct an 8-foot wide brick sidewalk with granite curbing on both sides of Pleasant St.
 - Provide two 10-foot wide two-way travel lanes.



- 2.2 Pleasant St. between West Creek Rd. and Daves St. (length = 425-feet)
- Provide two 8-foot wide parallel parking lanes along both sides of Pleasant St.
 - Provide two 10-foot wide two-way travel lanes.
 - Construct an 8-foot wide brick sidewalk with granite curbing on both sides of Pleasant St.



- 2.3 Pleasant St. between Daves St. and Cherry St. (length = 1,300-feet)
- Provide two 8-foot wide parallel parking lane along both sides of Pleasant St.
 - Provide two 10-foot wide one-way travel lanes.
 - Construct an 8-foot wide brick sidewalk with granite curbing on both sides of Pleasant St.

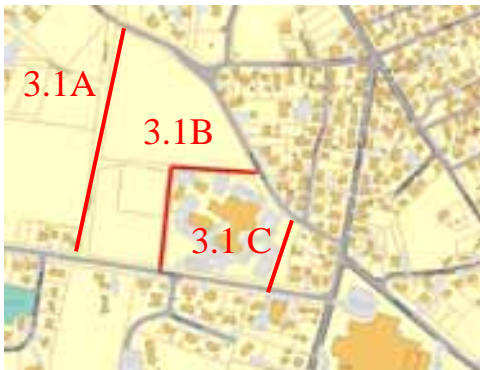


- 2.4 Pleasant St. between 5-Corners and Williams St.
- Construct two 5 to 8-foot wide brick sidewalk with granite curbing on both sides of Pleasant St.
 - Provide two 8-foot wide brick sidewalks with granite curbing on both sides of Pleasant St.

Magnitude of Cost:

<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length</u> (Feet)	<u>Add. Width</u> (Feet)	<u>Unit Cost</u>	<u>Design Cost</u>	<u>Construction</u> <u>Cost</u>
2.1	Pleasant Street	brick	190	16		\$0.00	\$0.00
2.2	Pleasant Street	brick	425	16			
		cobblestone	425	6			
2.3	Pleasant Street	brick	1300	16			
2.4	Pleasant Street	brick	520	16			
2.5	Pleasant Street	brick	500	16			
Total			3,360			\$0.00	\$0.00

3. Nantucket Cottage Hospital: Prospect Street to Vesper Lane *(listed as project 3a and 3b in 1994 plan)*



Project Description:

3.1 Nantucket Cottage Hospital

Option A

- Construct a 10-foot wide bicycle path, 1,080-feet long, connecting Prospect St and Vesper Ln along a portion of Chicken Hill and N. Mill St.

Option B

- Construct a 10-foot wide bicycle path, 865-feet long, connecting Prospect St and Vesper Ln along the western portion of the Hospital property

Option C

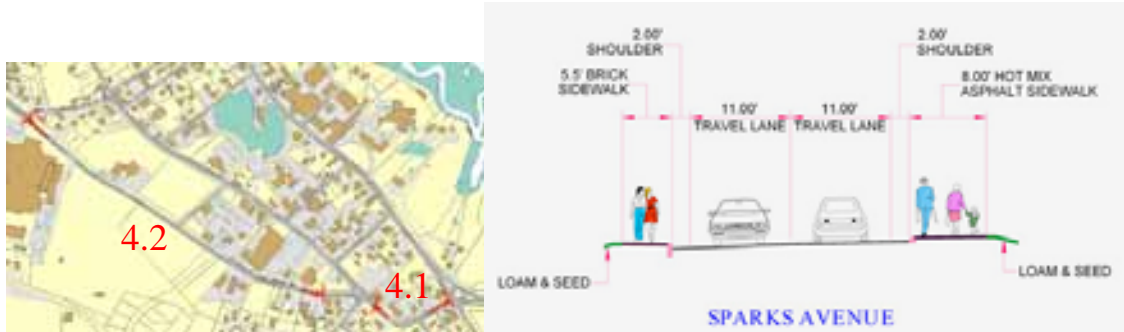
- Construct a 10-foot wide bicycle path, 360-feet long, connecting Prospect St and Vesper Ln along the eastern portion of the Hospital property, and along the western portion of the Hospital housing.

Magnitude of Cost:

<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length</u> (Feet)	<u>Add. Width</u> (Feet)	<u>Unit Cost</u>	<u>Design Cost</u>	<u>Construction</u> <u>Cost</u>
3.1A	Hospital	asphalt	1080	10		\$0.00	\$0.00
3.1B	Hospital	asphalt	865	10		\$0.00	\$0.00
3.1C	Hospital	asphalt	360	10		\$0.00	\$0.00
Total			360			\$0.00	\$0.00

4. Sparks Avenue (*listed as projects 4a, 1b, 2b, and 2c in the 1994 Plan*)

(Option A): Combination of 5-foot and 8- to 10-foot sidewalks



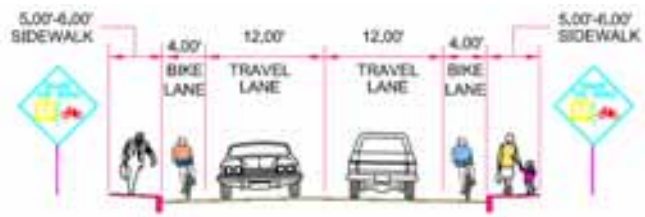
Project Description:

- 4.1 Sparks Avenue between Milestone Rotary and Pleasant St. Roundabout
 - Construct 5-foot wide brick sidewalk with granite curbing along north side of Sparks Ave. A 3-foot grass strip should be provided to separate travel lane and sidewalk where possible.
 - Construct 8 to 10-foot asphalt sidewalk with asphalt curbing along the south side of Sparks Ave.
- 4.2 Sparks Ave. between Pleasant St. Roundabout Williams Ln.
 - Construct 5-foot wide brick sidewalk with granite curbing along north side of Sparks Ave. A 3-foot grass strip should be provided to separate travel lane and sidewalk where possible.
 - Construct 8 to 10-foot asphalt sidewalk with asphalt curbing along the south side of Sparks Ave.

Magnitude of Cost:

<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length</u> (Feet)	<u>Add. Width</u> (Feet)	<u>Unit Cost</u>	<u>Design Cost</u>	<u>Construction</u> <u>Cost</u>
4.1	Sparks Ave.	asphalt	450	8		\$0.00	\$0.00
		brick	450	5			
4.2	Sparks Ave.	asphalt	2300	8		\$0.00	\$0.00
		brick	2300	5			
Total			5,500			\$0.00	\$0.00

(Option B): Combination of 5-foot sidewalks and 4-foot bike lanes.



4.1

Project Description:

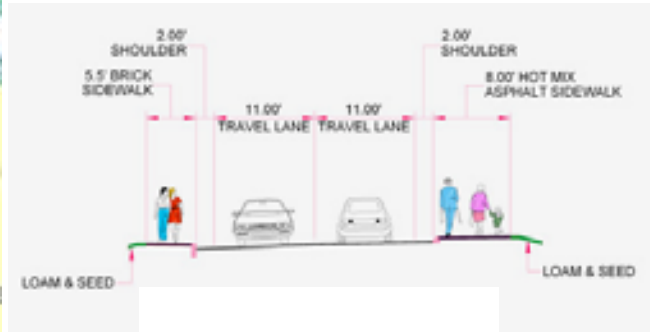
- 4.1 Sparks Avenue between Milestone Rotary and Pleasant St. Roundabout
 - Construct 5-foot wide brick sidewalk with granite curbing along north side of Sparks Ave. A 3-foot grass strip should be provided to separate travel lane and sidewalk where possible.
 - Construct 5-foot wide asphalt sidewalk with asphalt curbing along south side of Sparks Ave.
 - Provide a 4-foot wide bicycle lane on both sides of Sparks Ave. between the travel lane and the sidewalk.
- 4.2 Sparks Ave. between Pleasant St. Roundabout and Williams Ln.
 - Construct 5-foot wide brick sidewalk with granite curbing along north side of Sparks Ave. A 3-foot grass strip should be provided to separate travel lane and sidewalk where possible.
 - Construct 5-foot wide asphalt sidewalk with asphalt curbing along south side of Sparks Ave.
 - Provide a 4- to 5-foot wide bicycle lane on both sides of Sparks Ave. between the travel lane and the sidewalk.

Magnitude of Cost:

<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length (Feet)</u>	<u>Add. Width (Feet)</u>	<u>Unit Cost</u>	<u>Design Cost</u>	<u>Construction Cost</u>
4.1	Sparks Ave.	asphalt	450	bike lane		\$0.00	\$0.00
		brick	450	5			
4.2	Sparks Ave.	asphalt	2300	bike lane		\$0.00	\$0.00
		brick	2300	5			
Total			5,500			\$0.00	\$0.00

5. Orange Street *(listed as 5a and 1e in the 1994 Plan)*

(Option A): Combination of 5-foot and 8- to 10-foot sidewalks



Project Description:

5.1 Orange Street (*listed as 5a in 1995 Plan*)

- Construct a 5-foot wide brick sidewalk with granite curbing on the northeastern side of Orange St. between the Milestone Rotary and Bear St. A 3-foot grass strip should be provided to separate travel lane and sidewalk where possible.
- Construct an 8-foot wide brick sidewalk with granite curbing on southwestern side of Orange St. between the Milestone Rotary and Bear St.



5.2 Old Railroad Right-of-Way (*listed as 1e in 1995 Plan*)

- Construct bicycle path (material to be determined) along existing berm, connecting end of Washington Street Extension to Orange Street at Bear Street intersection, a distance of 800 feet (additional easements may be needed).



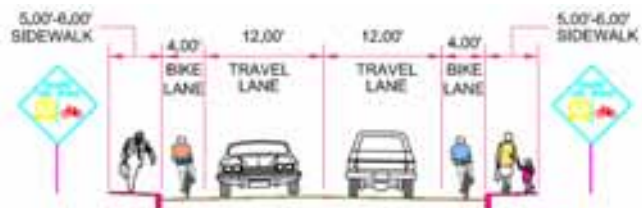
5.3 Washington St. Bicycle Route

- Designate Washington St. as a class III bicycle route with share-the-road signage between the Old Railroad Right-of-Way to Commercial St.

Magnitude of Cost:

<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length (Feet)</u>	<u>Add. Width (Feet)</u>	<u>Unit Cost</u>	<u>Design Cost</u>	<u>Construction Cost</u>
5.1	Lower Orange St.	brick	1950	10	\$0.00	\$0.00	\$0.00
		brick	1950	5			
5.2	Old Railroad ROW	TBD	800	10	\$0.00	\$0.00	\$0.00
Total			4,700			\$0.00	\$0.00

(Option B): Combination of 5-foot sidewalks, 4-foot bike lanes, and bike route.



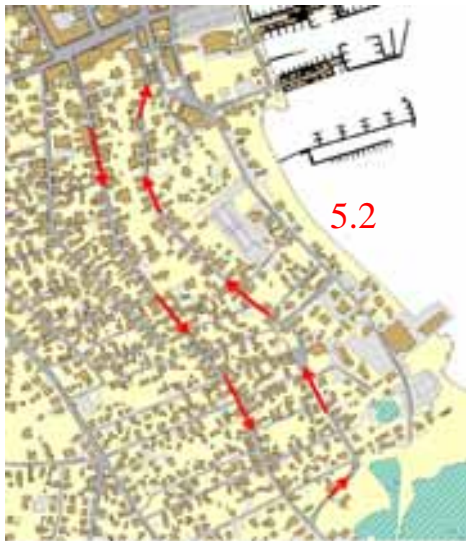
Project Description:

5.1 Orange Street (*listed as 5a in 1995 Plan*)

- Construct 5-foot wide brick sidewalk with granite curbing along northeastern side of Orange St. between the Milestone Rotary and Bear

St. A 3-foot grass strip should be provided to separate travel lane and sidewalk where possible.

- Construct 5-foot wide brick sidewalk with granite curbing along southwestern side of Orange St. between the Milestone Rotary and Union St. A 3-foot grass strip should be provided to separate travel lane and sidewalk where possible.
- Provide a 4 to 5-foot wide bicycle lane on both sides of Sparks Ave. between the travel lane and the sidewalk.



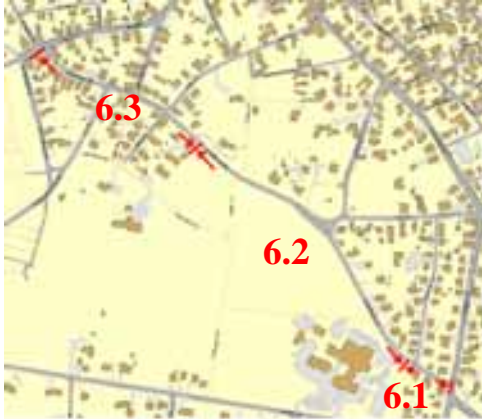
5.2 Union St. and Upper Orange Street Bicycle Route

- Construct bicycle path on existing berm, connecting end of Washington Street Extension to Orange Street at Bear Street intersection, a distance of 800 feet (easements required near Goose Pond Lane, a private road).

Magnitude of Cost:

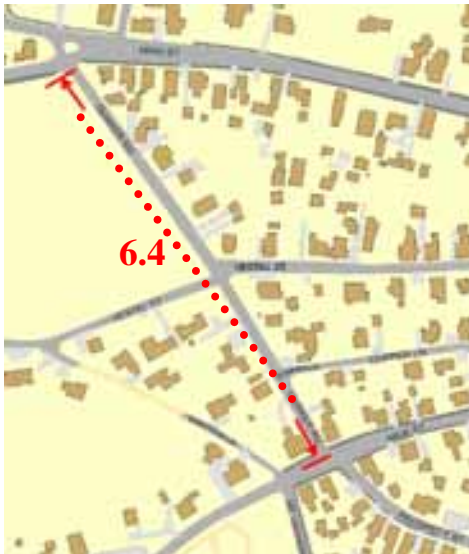
<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length</u> <u>(Feet)</u>	<u>Add. Width</u> <u>(Feet)</u>	<u>Unit Cost</u>	<u>Design</u> <u>Cost</u>	<u>Construction</u> <u>Cost</u>
5.1	Lower Orange St.	brick	2400	5	\$0.00	\$0.00	\$0.00
		brick	1950	5	\$0.00	\$0.00	\$0.00
5.2	Lower Orange St.	asphalt	2400	bike lane	\$0.00	\$0.00	\$0.00
Total			6,750			\$0.00	\$0.00

6. Prospect Street and Quaker Road



Project Description:

- 6.1 Prospect Street between Surfside Rd. and W. York Ln. (*listed as 5b in 1995 Plan*)
 - Construct a 5-foot wide brick sidewalk with granite curbing on southwest side of Prospect St. between Surfside Rd. and W. York Ln.
- 6.2 Prospect St. between W. York Ln. and 27 Prospect St.
 - Construct a 10-foot wide bicycle path along the southwestern side of Prospect St. between W. York Ln. and 27 Prospect St.
- 6.3 Prospect St. between 27 Prospect St. and Milk St.
 - Construct a 5-foot wide brick sidewalk with granite curbing along the southwestern side of Prospect St. between 27 Prospect St. and Milk St.



- 6.4 Quaker Road (*listed as 5c in 1995 Plan*)
 - Construct an approximately 5-foot wide asphalt sidewalk with granite curbing or multi-use lane with appropriate stripping along the western side of Quaker Road between Madaket Road and Milk Street.

Magnitude of Cost:

<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length (Feet)</u>	<u>Add. Width (Feet)</u>	<u>Unit Cost</u>	<u>Design Cost</u>	<u>Construction Cost</u>
6.1	Prospect St.	brick	250	5	\$0.00	\$0.00	\$0.00
6.2	Prospect St.	asphalt	1500	10	\$0.00		
6.3	Prospect St.	brick	900	5	\$0.00		
6.4	Quaker Rd.	asphalt	900	5	\$0.00	\$0.00	\$0.00
Total			3,550			\$0.00	\$0.00

7. Bicycle Improvement: Nobadeer Farm Road to Nantucket Memorial Airport



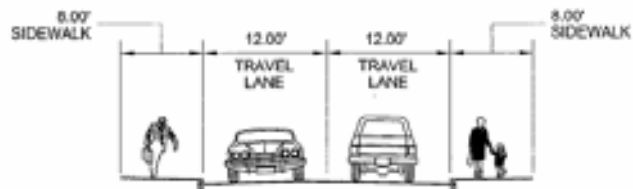
Project Description:

7.1 Nobadeer Farm Road

- Construct a 10-foot wide bicycle path, 960-feet long, along the west side of Nobadeer Farm Road, 50-feet from the right-of-way edge, beginning at the Milestone Rd. bike path.

7.2 Nobadeer Farm Road (*listed as 9a in 1995 Plan*)

- Construct a 10-foot wide bicycle path between Macys Ln. and an area along Nobadeer Farm Rd. 450-feet north of Sun Island Rd. The bicycle path should be along the western edge of property abutting the west side of Nobadeer Farm Rd.
- Appropriate lighting for safety should be provided.



7.3 Nobadeer Farm Road

Section A - Priority

- Construct an 8-foot brick sidewalk with granite curbing along the east side of Nobadeer Farm Road between Sun Island Road and Old South Road.

Section B – Secondary

- Construct a 8-foot brick sidewalk with granite curbing along the west side of Nobadeer Farm Road between Sun Island Road and Old South Road.

Magnitude of Cost:

<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length</u> <u>(Feet)</u>	<u>Add. Width</u> <u>(Feet)</u>	<u>Unit Cost</u>	<u>Design</u> <u>Cost</u>	<u>Construction</u> <u>Cost</u>
7.1	Nobadeer Farm Rd.	asphalt	960	10			
7.2	Nobadeer Farm Rd.	asphalt	1500	10	\$0.00	\$0.00	\$0.00
7.3A	Nobadeer Farm Rd.	Brick	1575	8			
7.3B	Nobadeer Farm Rd.	Brick	1575	8			
Total			4,650			\$0.00	\$0.00

8. Bicycle Improvement: Bartlett Road to Hummock Pond Road (Short-term)



Project Description:

8.1 Bartlett Road (*listed as 12a in 1995 Plan*)

- Where possible, re-construct the existing 6-foot asphalt facility to a 10-foot asphalt path.

8.2 Bartlett Road

- Complete connection of Surfside Bicycle Path to Somerset Bicycle Route by constructing a 10-foot wide bicycle path along the south side of Bartlett Road in the vicinity of Mizzenmast Road.



8.3 Somerset Road/Lane (*listed as 12b in 1995 Plan*)

- Designate as a bicycle route connecting Hummock Pond Bicycle Route and Bartlett Bicycle Path.

Magnitude of Cost:

<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length</u> <u>(Feet)</u>	<u>Add. Width</u> <u>(Feet)</u>	<u>Unit Cost</u>	<u>Design Cost</u>	<u>Construction</u> <u>Cost</u>
8.1	Bartlett Rd.	asphalt	2000	10	\$0.00	\$0.00	\$0.00
8.2	Bartlett Rd.	asphalt	1200	10	\$0.00	\$0.00	\$0.00
Total			3,200			\$0.00	\$0.00

9. Hummock Pond Road and Milk Street



Project Description:

9.1 Hummock Pond Rd. (*listed as 13b in 1995 Plan*)

- Construct a 10-foot wide bicycle path along Hummock Pond Rd. from the intersection of Vesper Ln., Hummock Pond Rd., and Somerset Rd. to the intersection of Hummock Pond Road and Milk St..

- 9.2 Milk St. (*listed as 13c in 1995 Plan*)
- Designate as a bicycle route from Gardner Street to Hummock Pond Road.

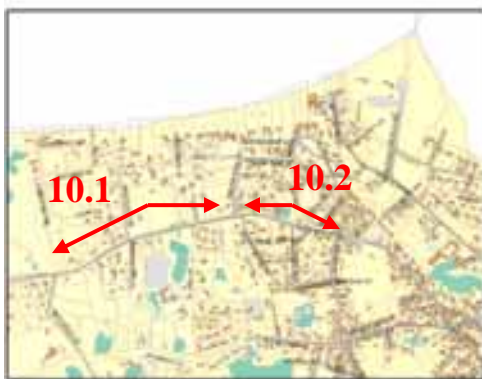


- 9.3 Hummock Pond Rd. (*listed as 13b in 1995 Plan*)
- Construct a 10-foot wide bicycle path along Hummock Pond Road between Milk St. and Cisco Beach.
 - Crossings, if needed, should be minimized.

Magnitude of Cost:

<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length (Feet)</u>	<u>Add. Width (Feet)</u>	<u>Design Cost</u>	<u>Construction Cost</u>
9.1	Hummock Pond Rd.	asphalt	1500	10	\$0.00	\$0.00
9.3	Hummock Pond Rd.	asphalt	14700	10	\$0.00	\$0.00
Total			14,700			\$0.00

10. Cliff Road



Project Description:

- 10.1 Cliff Rd. bicycle path extension
- Construct a 10-foot wide bicycle path along the north side of Cliff Rd between Crooked Ln. and Sherburne Turnpike.
- 10.2 Cliff Rd. bicycle path extension

- Construct a 10-foot wide bicycle path along the north side of Cliff Rd between Sherburne Turnpike and N. Liberty St.

10.3 Cliff Rd. bicycle path extension

- Provide unobstructed bicycle and pedestrian accommodations between N. Liberty St. and Westchester St.

Magnitude of Cost:

<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length (Feet)</u>	<u>Add. Width (Feet)</u>	<u>Design Cost</u>	<u>Construction Cost</u>
10.1	Cliff Rd. path extension	asphalt	2500	10	\$0.00	\$0.00
10.2	Cliff Rd. path extension	asphalt	1300	10	\$0.00	\$0.00
Total						\$0.00

11. Madaket Bicycle Path



Project Description:

11.1 Series of Reverse Horizontal Curves 1,000-feet west of Millbrook Rd. (*listed as 14a in 1995 Plan*)

(Short Term):

- Install Warning Signs (WI-5).
- Relocate utility pole and box.
- Upgrade split rail fence to conform with AASHTO Guidelines.
- Study operational characteristics of this section.
- Comprehensive accident analysis of this section.

(Mid Term, if above doesn't work):

- Widen pavement cross section within the horizontal curves to increase the effective width of the path, or
- Realign/upgrade to improve operating conditions.



- 11.2 Areas of No-Median Separation (5,280 feet) (*listed as 14b in 1995 Plan*) (Short Term):



- 11.3 Improve Access to the Bicycle Facility Entrance (*listed as 14c in 1995 Plan*)
- Install crosswalk across Main Street from Caton Circle to Quaker Road.
 - Install crosswalk across Quaker Road linking existing bicycle facility with Main Street.
 - Install bicycle crossing signs (W11-1) at all approaches.
 - Widen the entrance throats and provide entering and exiting direction arrows on the pavement.

Magnitude of Cost:

12. Quidnet Road



Project Description:

12.1 Quidnet Road *(listed as 17a in 1995 Plan)*

- Construct bicycle path on the north side of Quidnet Road between Polpis Road and Squam Road (6,860 feet).
- Project is considered a low priority.

Magnitude of Cost:

<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length</u> <u>(Feet)</u>	<u>Add. Width</u> <u>(Feet)</u>	<u>Unit Cost</u>	<u>Design Cost</u>	<u>Construction</u> <u>Cost</u>
12.1	Quidnet Rd.	asphalt	6860	10	\$0.00	\$0.00	\$0.00
Total			6,860			\$0.00	\$0.00

13. Tom Nevers Road



Project Description:

13.1 Tom Nevers Road *(listed as 17b in 1995 Plan)*

- Construct bicycle path on the east side of Tom Nevers Road (7,390 feet).
- Project is considered a low priority.

13.2 Tom Nevers Road *(listed as 17b in 1995 Plan)*

- Construct bicycle path along Tom Nevers Road between Old Tom Nevers Rd. and the Tom Nevers Playing Fields (4,300-feet).
- Project is considered a low priority.

Magnitude of Cost:

<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length (Feet)</u>	<u>Add. Width (Feet)</u>	<u>Unit Cost</u>	<u>Design Cost</u>	<u>Construction Cost</u>
13.1	Tom Nevers Rd.	asphalt	7390	10		\$0.00	\$0.00
13.2	Tom Nevers Rd.	asphalt	4300	10		\$0.00	\$0.00
Total			4,300			\$0.00	\$0.00

14. Bear Street (*listed as 1d in 1995 Plan*)



Project Description:

14.1 Bear St. between Orange St. and Pleasant St.

- Reconstruct roadway to provide a one-way travel lane and separated bicycle path between Pleasant St. and Orange St.
- Install crosswalk on Orange Street, connecting Bear Street bicycle path to new path along old railroad right-of-way.
- Install Bicycle Crossing sign (W11-1) on both sides of Orange Street 250 feet in advance of crossing.
- Trim vegetation along Orange Street to improve sight distance at crossing.
- Project is considered a low priority.

Magnitude of Cost:

<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length (Feet)</u>	<u>Add. Width (Feet)</u>	<u>Unit Cost</u>	<u>Total</u>
14.1	Bear St.	asphalt	725	10	\$0.00	\$0.00
Total			725			\$0.00

15. Boys Club Property *(listed as 1c in 1995 Plan)*



Project Description:

- 15.1 Boys and Girls Club between Pleasant St. and Sparks Ave.
- Construct bicycle path, 400 feet long, connecting Sparks Avenue and Pleasant Street across southeastern edge of Boys Club property (easement required).
 - Install crosswalk across Pleasant Street, linking proposed bicycle path between Boys Club site and Bear Street.
 - Install Bicycle Crossing signs (W11-1) on both sides of Pleasant Street 250 feet in advance of crossing.
 - Project is considered a low priority.

Magnitude of Cost:

<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length (Feet)</u>	<u>Add. Width (Feet)</u>	<u>Unit Cost</u>	<u>Total</u>
15.1	Boys and Girls Club	asphalt	350	10	\$0.00	\$0.00
Total			350			\$0.00

16. Washington, Francis and Union Streets *(listed as 5f in 1995 Plan)*

Project Description:

- 16.1 Washington, Francis, and Union Streets
- Upgrade existing sidewalks on Washington and Francis Streets and on Union Street between Francis and Orange Streets.

Magnitude of Cost:

<u>Project ID</u>	<u>Location</u>	<u>Material</u>	<u>Length (Feet)</u>	<u>Add. Width (Feet)</u>	<u>Unit Cost</u>	<u>Total</u>
16.1	Washington St.	**	1700	**	**	**
	Francis St.	**	300	**	**	**
	Union St.	**	1300	**	**	**
Total			3,300			\$0.00

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

Appendix B – Pavement Condition Rating Procedures

PAVEMENT CONDITION RATING PROCEDURES

FIELD MONITORING PROCEDURE

The pavement condition rating is intended to apply to the entire pavement section being monitored. Section lengths are established by the monitoring procedure, with the average length being from 3 to 5 km (2 to 3 miles). Directional lanes of multilane roadways are considered separate roadways by the monitoring procedure. On multilane roadways the heaviest traveled lane (usually the outside lane) should be rated. For two lane roadways, rating one direction is sufficient unless a significant difference in condition is observed between the two lanes. The monitoring procedure checks the variance of the Pavement Serviceability Index (PSI) within a section to limit section length. This limitation should produce sections that have a fairly constant visual condition. If a definite variation in condition is observed within a section, the section should then be subdivided for condition rating. Recording of visible distress for the PCR calculations involves three steps:

- Step 1.** The rating team (the rating team should consist of a Driver and a Rater) should ride the predetermined roadway section at a speed of about 60 km (40 MPH). During this step, readily visible distresses such as potholes, bleeding, settlement, faulting, spalling, and surface deterioration should be rated. Also the need for subdividing the section should be evaluated in step 1.
- Step 2.** A second pass along the roadway section should be made with stops at approximately 1.5 km (1 mile) intervals. For example, a 3 km (2-mile section) would require 2 stops to be made. At each stop the raters should evaluate the roadway by viewing 30 m (100') of the pavement. Close inspection of pavement cracking, crack sealing, rutting, raveling, joint spalling, D-cracking, and other visible distress should be made by viewing the pavement from the roadway shoulder.
- Step 3.** Complete the PCR form. The final rating form for the roadway section should represent the observed average of visible distress for the entire section. Separate rating forms based upon the step 1 observations and the individual stops made during step 2 are not required. However, raters may wish to use additional rating forms for each stop, simply for note keeping purposes.

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

Appendix C – Milestone Road Section PCR

Section: **Milestone Road 1**
 Log mile: **0** to **0.4**
 Description: **Rotary to Polpis Rd Bike Path**

Date: **8/24/2005**
 Rated by: **MDE**
 # of Utility Cuts: **1**

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10							0.6	0.8	1	0.7	0.9	1 *	0	0	0
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10		x		x			0.4	0.7	1	0.5	0.7	1 *	0.7	0.5	3.5
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5		x				x	0.4	0.7	1	0.5	0.7	1 *	0.7	1	3.5
PRESSURE DAMAGE/UPHEAVAL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															8.5	
SUM OF STRUCTURAL DEDUCT (*) =															7	
100- TOTAL DEDUCT = PCR =															91.5	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

Test Section at Monomoy Rd
 Generally Good Condition - Utility Trench

Section: Milestone Road 2
 Log mile: 0.1 to 1
 Description: Polpis Rd Bike Path to Sheep Commons Ln

Date: 8/24/2005
 Rated by: MDE
 # of Utility Cuts: 0

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10	x			x			0.6	0.8	1	0.7	0.9	1 *	0.6	0.7	4.2
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10							0.4	0.7	1	0.5	0.7	1 *	0	0	0
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	1
PRESSURE DAMAGE/UPHEAVAL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															6.7	
SUM OF STRUCTURAL DEDUCT (*) =															5.2	
100- TOTAL DEDUCT = PCR =															93.3	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

Test at Tawpoot Road .8 miles

Section: **Milestone Road 3**
 Log mile: 1 to 2.2
 Description: Sheep Commons Ln to Bunker Rd

Date: 8/24/2005
 Rated by: MDE
 # of Utility Cuts: 0

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5	x			x			0.3	0.6	1	0.6	0.8	1	0.3	0.6	0.9
RUTTING	10	x			x			0.3	0.7	1	0.6	0.8	1 *	0.3	0.6	1.8
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10							0.6	0.8	1	0.7	0.9	1 *	0	0	0
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10							0.4	0.7	1	0.5	0.7	1 *	0	0	0
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5							0.4	0.7	1	0.5	0.7	1 *	0	0	0
PRESSURE DAMAGE/UPHEAVAL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															4.2	
SUM OF STRUCTURAL DEDUCT (*) =															1.8	
100- TOTAL DEDUCT = PCR =															95.8	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

Mile 1.2 - Debonding
 Mile 1.5 Test Section - Nobadeer Farm Rd
 Slight ravelling and potholes along edges

Section: **Milestone Road 4**
 Log mile: **2.2** to **3**
 Description: **Bunker Rd to Larson Acres**

Date: **24-Aug**
 Rated by: **MDE**
 # of Utility Cuts: **1**

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10	x			x			0.6	0.8	1	0.7	0.9	1 *	0.6	0.7	4.2
SETTLEMENTS	5	x			x			0.4	0.7	1	0.6	0.8	1	0.4	0.6	1.2
TRANSVERSE CRACKS	10			x	x			0.4	0.7	1	0.5	0.7	1 *	1	0.5	5
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5							0.4	0.7	1	0.5	0.7	1 *	0	0	0
PRESSURE DAMAGE/UPHEAVAL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															11.9	
SUM OF STRUCTURAL DEDUCT (*) =															9.2	
100- TOTAL DEDUCT = PCR =															88.1	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

Test section at 2.5
 Some Settling

Section: **Milestone Road 5**
 Log mile: 3 to 3.8
 Description: Larson Acres to Tom Nevers Rd

Date: 8/24/2005
 Rated by: MDE
 # of Utility Cuts: 0

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10	x			x			0.3	0.7	1	0.6	0.8	1 *	0.3	0.6	1.8
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10							0.6	0.8	1	0.7	0.9	1 *	0	0	0
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	2
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5							0.4	0.7	1	0.5	0.7	1 *	0	0	0
PRESSURE DAMAGE/UPHEAVAL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															5.3	
SUM OF STRUCTURAL DEDUCT (*) =															3.8	
100- TOTAL DEDUCT = PCR =															94.7	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

Test at 3.5
 Rutting and transverse cracks probably caused by tree roots moving under pavement

Section: **Milestone Road 6**
 Log mile: 3.8 to 4.8
 Description: Tom Nevers Rd to Chuck Hollow Rd

Date: 8/24/2005
 Rated by: MDE
 # of Utility Cuts:

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10	x			x			0.3	0.7	1	0.6	0.8	1 *	0.3	0.6	1.8
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10							0.6	0.8	1	0.7	0.9	1 *	0	0	0
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10							0.4	0.7	1	0.5	0.7	1 *	0	0	0
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5		x		x			0.4	0.7	1	0.5	0.7	1 *	0.7	0.5	1.75
PRESSURE DAMAGE/UPHEAVEL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															5.05	
SUM OF STRUCTURAL DEDUCT (*) =															3.55	
100- TOTAL DEDUCT = PCR =															95.0	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

Test at mile 4.3
 Repaved Section at mile 4.1 and 4.4

Section: **Milestone Road 7**
 Log mile: **4.8** to **5.8**
 Description: **Chuck Hollow Rd to Philips Run Rd**

Date: **8/24/2005**
 Rated by: **MDE**
 # of Utility Cuts: **0**

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10							0.3	0.6	1	0.5	0.8	1	0	0	0
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5	x			x			0.3	0.6	1	0.6	0.8	1	0.3	0.6	0.9
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10	x			x			0.3	0.7	1	0.6	0.8	1 *	0.3	0.6	1.8
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10							0.6	0.8	1	0.7	0.9	1 *	0	0	0
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	2
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5							0.4	0.7	1	0.5	0.7	1 *	0	0	0
PRESSURE DAMAGE/UPHEAVEL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															4.7	
SUM OF STRUCTURAL DEDUCT (*) =															3.8	
100- TOTAL DEDUCT = PCR =															95.3	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:
 test at mile 5.3
 occasional areas of slight rutting
 Patch at mile 5.6

Section: **Milestone Road 8**
 Log mile: **5.8** to **6.2**
 Description: **Philips Run Road to End**

Date: **8/24/2005**
 Rated by: **MDE**
 # of Utility Cuts: **1 at mile 5.9**

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10							0.3	0.6	1	0.5	0.8	1	0	0	0
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10							0.6	0.8	1	0.7	0.9	1 *	0	0	0
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	2
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5							0.4	0.7	1	0.5	0.7	1 *	0	0	0
PRESSURE DAMAGE/UPHEAVAL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															2	
SUM OF STRUCTURAL DEDUCT (*) =															2	
100- TOTAL DEDUCT = PCR =															98	

¹L = LOW ²O = OCCASIONAL
 M = MEDIUM F = FREQUENT
 H = HIGH E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

Appendix D - Surfside Road Section PCR

Section: Surfside Rd 1
 Log mile: 0 to 1.2
 Description: Start to Gladlands Ave

Date: 8/24/2005
 Rated by: MDE
 # of Utility Cuts:

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10							0.6	0.8	1	0.7	0.9	1 *	0	0	0
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10							0.4	0.7	1	0.5	0.7	1 *	0	0	0
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5							0.4	0.7	1	0.5	0.7	1 *	0	0	0
PRESSURE DAMAGE/UPHEAVAL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															1.5	
SUM OF STRUCTURAL DEDUCT (*) =															0	
100- TOTAL DEDUCT = PCR =															98.5	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS: some surface damage at intersecting driveways
test at miacomet ave mile 0.6

Section: Surfside Rd 2
 Log mile: 1.2 to Mile 1.8
 Description: Gladlands Ave to End

Date: 8/24/2005
 Rated by: MDE
 # of Utility Cuts:

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10							0.3	0.6	1	0.5	0.8	1	0	0	0
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10							0.6	0.8	1	0.7	0.9	1 *	0	0	0
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10							0.4	0.7	1	0.5	0.7	1 *	0	0	0
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5							0.4	0.7	1	0.5	0.7	1 *	0	0	0
PRESSURE DAMAGE/UPHEAVAL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =																0
SUM OF STRUCTURAL DEDUCT (*) =																0
100- TOTAL DEDUCT = PCR =																100

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

Test opposite Boulevard
 test at 1.3
 Slight surface damage at a few intersecting driveways

Section: **Surside Road 3**
 Log mile: **1.8** to **2.5**
 Description: **Mile 1.8 to End**

Date: **8/24/2005**
 Rated by: **MDE**
 # of Utility Cuts: **MDE**

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10							0.3	0.6	1	0.5	0.8	1	0	0	0
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10	x			x			0.6	0.8	1	0.7	0.9	1 *	0.6	0.7	4.2
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10							0.4	0.7	1	0.5	0.7	1 *	0	0	0
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	1
PRESSURE DAMAGE/UPHEAVEL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															5.2	
SUM OF STRUCTURAL DEDUCT (*) =															5.2	
100- TOTAL DEDUCT = PCR =															94.8	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS: test at mile 1.8
minor edge cracking - just starting to develop

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

Appendix E – Madaket Road Section PCR

Section: **Madaket Road 1**
 Log mile: **0** to **0.9**
 Description: **Ames Ave to South Cambridge St**

Date: **8/25/2005**
 Rated by: **MDE**
 # of Utility Cuts: **11**

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10	x			x			0.6	0.8	1	0.7	0.9	1 *	0.6	0.7	4.2
SETTLEMENTS	5	x			x			0.4	0.7	1	0.6	0.8	1	0.4	0.6	1.2
TRANSVERSE CRACKS	10		x		x			0.4	0.7	1	0.5	0.7	1 *	0.7	0.5	3.5
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5							0.4	0.7	1	0.5	0.7	1 *	0	0	0
PRESSURE DAMAGE/UPHEAVAL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															10.4	
SUM OF STRUCTURAL DEDUCT (*) =															7.7	
100- TOTAL DEDUCT = PCR =															89.6	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

Test at I Street
 joint between road and path raveling, patch at mile 0.6
 settlement at driveways, DMH at I street poor patch
 Settlement at mile 0.3 24' long x 3' wide
 Appears that road has been overlayed, but not path leading to minor edge cracking

Section: **Madaket Road 2**
 Log mile: **0.9** to **2**
 Description: **South Cambridge St to Parking Area (Pier)**

Date: **8/25/2005**
 Rated by: **MDE**
 # of Utility Cuts: _____

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10	x				x		0.6	0.8	1	0.7	0.9	1 *	0.6	0.9	5.4
SETTLEMENTS	5	x			x			0.4	0.7	1	0.6	0.8	1	0.4	0.6	1.2
TRANSVERSE CRACKS	10	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	2
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5		x			x		0.4	0.7	1	0.5	0.7	1 *	0.7	0.7	2.45
PRESSURE DAMAGE/UPHEAVAL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															12.55	
SUM OF STRUCTURAL DEDUCT (*) =															9.85	
100- TOTAL DEDUCT = PCR =															87.5	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:
 Mile 1.6 settlement cracks follow roadway cracks adjacent to road
 MH at mile 1.3; culvert at mile 1.6; mile 1.8 root upheaval; patch at mile 1.9;
 settlement at mile 1.9; MH at 1.9

Section: **Madaket Road 3**
 Log mile: 2 to 3.2
 Description: Pier Parking Area to 160 Madaket Rd

Date: 8/25/2005
 Rated by: MDE
 # of Utility Cuts:

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5	x			x			0.3	0.6	1	0.6	0.8	1	0.3	0.6	0.9
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10	x				x		0.6	0.8	1	0.7	0.9	1 *	0.6	0.9	5.4
SETTLEMENTS	5	x			x			0.4	0.7	1	0.6	0.8	1	0.4	0.6	1.2
TRANSVERSE CRACKS	10	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	2
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	1
PRESSURE DAMAGE/UPHEAVAL	5	x			x			0.4	0.6	1	0.5	0.8	1	0.4	0.5	1
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															13	
SUM OF STRUCTURAL DEDUCT (*) =															8.4	
100- TOTAL DEDUCT = PCR =															87	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS: debonding at DPW mile 2.2; MH at mile 2.0; root upheaval at mile 2.6
minor base failure along edges

Section: **Madaket Road 4**
 Log mile: **3.2** to **4**
 Description: **160 Madaket Rd to Mile 4.0**

Date: **8/25/2005**
 Rated by: **MDE**
 # of Utility Cuts: _____

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10	x			x			0.6	0.8	1	0.7	0.9	1 *	0.6	0.7	4.2
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	2
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	1
PRESSURE DAMAGE/UPHEAVEL	5		x		x			0.4	0.6	1	0.5	0.8	1	0.6	0.5	1.5
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =																10.2
SUM OF STRUCTURAL DEDUCT (*) =																7.2
100- TOTAL DEDUCT = PCR =																89.8

¹L = LOW

M = MEDIUM

H = HIGH

²O = OCCASIONAL

F = FREQUENT

E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

Test at mile 3.6 - Cliff Road
 mile 3.2, 3.3, 3.4 tree roots
 mile 3.4 by drinkin gfountain - edge failure 5' long 4" deep cut and replace
 Major Erosion at Bridge Railing

Section: **Madaket Road 5**
 Log mile: 4 to 4.7
 Description: Bridge at mile 4.0 to 72 Madaket Rd

Date: 8/25/2005
 Rated by: MDE
 # of Utility Cuts:

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10	x			x			0.6	0.8	1	0.7	0.9	1 *	0.6	0.7	4.2
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	2
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5							0.4	0.7	1	0.5	0.7	1 *	0	0	0
PRESSURE DAMAGE/UPHEAVAL	5	x			x			0.4	0.6	1	0.5	0.8	1	0.4	0.5	1
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															8.7	
SUM OF STRUCTURAL DEDUCT (*) =															6.2	
100- TOTAL DEDUCT = PCR =															91.3	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS: test at mile 4.4 Hydrangea Farm
 4.1 roots 4.3
 minor base failure along edges

Section: **Madaket Road 6**
 Log mile: **4.7** to **end**
 Description: **72 Madaket Rd to End**

Date: **8/25/2005**
 Rated by: **MDE**
 # of Utility Cuts: **1**

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10	x			x			0.6	0.8	1	0.7	0.9	1 *	0.6	0.7	4.2
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	2
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	1
PRESSURE DAMAGE/UPHEAVAL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =																8.7
SUM OF STRUCTURAL DEDUCT (*) =																7.2
100- TOTAL DEDUCT = PCR =																91.3

¹L = LOW

M = MEDIUM

H = HIGH

²O = OCCASIONAL

F = FREQUENT

E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

poor joint with existing pavement
 test at mile 5.2 mile 5.2 to end looks new
 poor utility patch at #70
 mile 5.0 MH and CB at mile 5.1

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

Appendix F – Cliff Road Section PCR

Section: Cliff Road 1
 Log mile: 0 to 1.2
 Description: Madaket Road to End

Date: 8/25/2005
 Rated by: MDE
 # of Utility Cuts: 2

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10	x			x			0.6	0.8	1	0.7	0.9	1 *	0.6	0.7	4.2
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	2
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	1
PRESSURE DAMAGE/UPHEAVEL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															8.7	
SUM OF STRUCTURAL DEDUCT (*) =															7.2	
100- TOTAL DEDUCT = PCR =															91.3	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:
 test at mile 0.6
 mile 0.4 utility patch (settled)
 mile 1.1 utility patch; mile 0.3 overlay at deacons way debonding

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

Appendix G – Polpis Road Section PCR

Section: **Polpis Road 1**
 Log mile: **0** to **0.9**
 Description: **Milestone Road to Kelly Road**

Date: **8/25/2005**
 Rated by: **MDE**
 # of Utility Cuts: **1**

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10							0.3	0.6	1	0.5	0.8	1	0	0	0
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10	x			x			0.6	0.8	1	0.7	0.9	1 *	0.6	0.7	4.2
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10							0.4	0.7	1	0.5	0.7	1 *	0	0	0
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5							0.4	0.7	1	0.5	0.7	1 *	0	0	0
PRESSURE DAMAGE/UPHEAVAL	5	x			x			0.4	0.6	1	0.5	0.8	1	0.4	0.5	1
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															5.2	
SUM OF STRUCTURAL DEDUCT (*) =															4.2	
100- TOTAL DEDUCT = PCR =															94.8	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:
 generally very good
 test at mile 0.5
 mile 0.2 patch utility; mile 0.6 minor upheaval
 minor base failures along edges

Section: Polpis Road 2
 Log mile: 0.9 to 2
 Description: Kelley Road to Topgate Lane

Date: 8/25/2005
 Rated by: MDE
 # of Utility Cuts: 1

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5	x			x			0.3	0.6	1	0.6	0.8	1	0.3	0.6	0.9
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10	x			x			0.6	0.8	1	0.7	0.9	1 *	0.6	0.7	4.2
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10							0.4	0.7	1	0.5	0.7	1 *	0	0	0
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5							0.4	0.7	1	0.5	0.7	1 *	0	0	0
PRESSURE DAMAGE/UPHEAVEL	5	x			x			0.4	0.6	1	0.5	0.8	1	0.4	0.5	1
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															7.6	
SUM OF STRUCTURAL DEDUCT (*) =															4.2	
100- TOTAL DEDUCT = PCR =															92.4	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

test at mile 1.5
 hump at cross road mile 1.0
 utility trench at mile 1.6 not very good patch

Section: Polpis Road 3
 Log mile: 2 to 2.9
 Description: Topgate Lane to Quase Road

Date: 8/25/2005
 Rated by: MDE
 # of Utility Cuts:

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10							0.3	0.6	1	0.5	0.8	1	0	0	0
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10	x			x			0.6	0.8	1	0.7	0.9	1 *	0.6	0.7	4.2
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10							0.4	0.7	1	0.5	0.7	1 *	0	0	0
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	1
PRESSURE DAMAGE/UPHEAVEL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															5.2	
SUM OF STRUCTURAL DEDUCT (*) =															5.2	
100- TOTAL DEDUCT = PCR =															94.8	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

test at mile 2.5
 mile 2.3 new pavement
 mile 2.35 new patch - good condition
 mile 2.5 poor top course joint photo

Section: **Polpis Road 4**
 Log mile: **2.8** to **4.1**
 Description: **Quase Rd to 275 Polpis Road**

Date: **8/25/2005**
 Rated by: **MDE**
 # of Utility Cuts: _____

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10							0.3	0.6	1	0.5	0.8	1	0	0	0
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5	x			x			0.3	0.6	1	0.6	0.8	1	0.3	0.6	0.9
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10	x			x			0.6	0.8	1	0.7	0.9	1 *	0.6	0.7	4.2
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10							0.4	0.7	1	0.5	0.7	1 *	0	0	0
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5							0.4	0.7	1	0.5	0.7	1 *	0	0	0
PRESSURE DAMAGE/UPHEAVEL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															5.1	
SUM OF STRUCTURAL DEDUCT (*) =															4.2	
100- TOTAL DEDUCT = PCR =															94.9	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

test at mile 3.5
 patch at mile 3.2

Section: **Polpis Road 5**
 Log mile: **4.1** to **5**
 Description: **275 Polpis Road to 315 Polpis Road**

Date: **8/25/2005**
 Rated by: **MDE**
 # of Utility Cuts: **1**

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10							0.3	0.6	1	0.5	0.8	1	0	0	0
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5	x			x			0.3	0.6	1	0.6	0.8	1	0.3	0.6	0.9
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10	x			x			0.6	0.8	1	0.7	0.9	1 *	0.6	0.7	4.2
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	2
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5							0.4	0.7	1	0.5	0.7	1 *	0	0	0
PRESSURE DAMAGE/UPHEAVAL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															7.1	
SUM OF STRUCTURAL DEDUCT (*) =															6.2	
100- TOTAL DEDUCT = PCR =															92.9	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:
 test at mile 4.6
 mile 4.2 transverse crack patches drain trench needs to redone
 minor upheaval from tree roots
 overgrown vegetation

Section: Polpis Road 6
 Log mile: 5 to 6.1
 Description: 315 Polpis Road to End of G.R Run

Date: 8/25/2005
 Rated by: MDE
 # of Utility Cuts:

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10	x			x			0.6	0.8	1	0.7	0.9	1 *	0.6	0.7	4.2
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10							0.4	0.7	1	0.5	0.7	1 *	0	0	0
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5							0.4	0.7	1	0.5	0.7	1 *	0	0	0
PRESSURE DAMAGE/UPHEAVEL	5	x			x			0.4	0.6	1	0.5	0.8	1	0.4	0.5	1
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															6.7	
SUM OF STRUCTURAL DEDUCT (*) =															4.2	
100- TOTAL DEDUCT = PCR =															93.3	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

test at mile 5.5
 5.3 transverse construction joints

Section: **Polpis Road 7**
 Log mile: **6.1** to **7**
 Description: **Mile 6.1 to mile 7.0**

Date: **8/25/2005**
 Rated by: **MDE**
 # of Utility Cuts: _____

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10		x		x			0.6	0.8	1	0.7	0.9	1 *	0.8	0.7	5.6
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10							0.4	0.7	1	0.5	0.7	1 *	0	0	0
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	1
PRESSURE DAMAGE/UPHEAVEL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															8.1	
SUM OF STRUCTURAL DEDUCT (*) =															6.6	
100- TOTAL DEDUCT = PCR =															91.9	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:
 test at mile 6.5
 mile 6.2 base failure - area of concern should rebuild section
 localized moderate ravelling at mile 6.6
 overgrown vegetation

Section: Polpis Road 8
 Log mile: 7 to 8.2
 Description: Mile 7 to Eldridge Lane

Date: 8/25/2005
 Rated by: MDE
 # of Utility Cuts:

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10	x			x			0.3	0.6	1	0.5	0.8	1	0.3	0.5	1.5
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10			x	x			0.6	0.8	1	0.7	0.9	1 *	1	0.7	7
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10							0.4	0.7	1	0.5	0.7	1 *	0	0	0
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	1
PRESSURE DAMAGE/UPHEAVEL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =															9.5	
SUM OF STRUCTURAL DEDUCT (*) =															8	
100- TOTAL DEDUCT = PCR =															90.5	

¹L = LOW
 M = MEDIUM
 H = HIGH

²O = OCCASIONAL
 F = FREQUENT
 E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

test at mile 7.6
 localized base failure mile 7.0

TECHNICAL MEMORANDUM

Update of the Nantucket Bicycle and Pedestrian Master Plan

Appendix H – Eel Point Road Section PCR

Section: Eel Point Road 1
 Log mile: 0 to 0.9
 Description: Madaket Road to End

Date: 8/25/2005
 Rated by: MDE
 # of Utility Cuts:

LOCAL PAVEMENT CONDITION RATING FORM

DISTRESS	DISTRESS WEIGHT	SEVERITY ¹			EXTENT ²			SEVERITY			EXTENT			SEVERITY	EXTENT	DEDUCT
		L	M	H	O	F	E	L	M	H	O	F	E			POINTS ³
RAVELING	10							0.3	0.6	1	0.5	0.8	1	0	0	0
BLEEDING	5							0.8	0.8	1	0.6	0.9	1	0	0	0
PATCHING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
SURFACE DISINTEGRATION OR DEBONDING	5							0.3	0.6	1	0.6	0.8	1	0	0	0
RUTTING	10							0.3	0.7	1	0.6	0.8	1 *	0	0	0
MAP CRACKING	5							0.2	0.6	1	0.4	0.8	1	0	0	0
BASE FAILURE	10							0.6	0.8	1	0.7	0.9	1 *	0	0	0
SETTLEMENTS	5							0.4	0.7	1	0.6	0.8	1	0	0	0
TRANSVERSE CRACKS	10							0.4	0.7	1	0.5	0.7	1 *	0	0	0
WHEEL TRACK CRACKING	15							0.4	0.7	1	0.5	0.7	1 *	0	0	0
LONGITUDINAL CRACKING	5							0.2	0.6	1	0.4	0.8	1 *	0	0	0
EDGE CRACKING	5	x			x			0.4	0.7	1	0.5	0.7	1 *	0.4	0.5	1
PRESSURE DAMAGE/UPHEAVAL	5							0.4	0.6	1	0.5	0.8	1	0	0	0
CRACK SEALING DEFICIENCY	5							1	1	1	0.5	0.8	1	0	0	0
TOTAL DEDUCT =																1
SUM OF STRUCTURAL DEDUCT (*) =																1
100- TOTAL DEDUCT = PCR =																99

¹L = LOW ²O = OCCASIONAL
 M = MEDIUM F = FREQUENT
 H = HIGH E = EXTENSIVE

³DEDUCT POINTS = DISTRESS WEIGHT X SEVERITY WT. X EXTENT WT.

REMARKS:

Test at North Swift Rock
 Very minor edge cracking where shoulder is not built up